IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS

MICROGRAFX, LLC,
 	
      Plaintiff,
 	
   v.
 	
SAMSUNG TELECOMMUNICATIONS AMERICA, LLC; SAMSUNG ELECTRONICS AMERICA, INC.; SAMSUNG ELECTRONICS CO., LTD.
 	
      Defendants.
	Civil Action No. 3:13-cv-03599

APPENDIX IN SUPPORT OF SAMSUNG'S BRIEF IN SUPPORT OF ITS MOTION TO DISQUALIFY MATTHEW POWERS, STEVEN CHERENSKY, AND THE TENSEGRITY LAW GROUP AS COUNSEL FOR MICROGRAFX AGAINST SAMSUNG IN THIS CASE

DESCRIPTION	APP. #
Declaration of Joseph Milowic III . . .	001-003
Exhibit A: SEC EDGAR Database, 07/16/2001 Notification of Business Combinations, "Corel to Acquire Micrografx"	004-006
Exhibit B: SEC EDGAR Database, 02/27/2002 Filing of Corel Corporation's 10-K, for the fiscal year ended 11/30/2001	007-075
Exhibit C: Texas Business Records, 06/03/2013 Micrografx LLC Registration	076-077
Exhibit D: U.S. Patent and Trademark Office Patent Assignment Database, Assignment History of Asserted Patent 5,959,633	078-084
Exhibit E: U.S. Patent and Trademark Office Patent Assignment Database, Assignment History of Asserted Patent 6,057,854	085-091
Exhibit F: U.S. Patent and Trademark Office Patent Assignment Database, Assignment History of Asserted Patent 6,552,732	092-098
Exhibit G: U.S. Patent No. 5,959,633	099-111
Exhibit H: U.S. Patent No. 6,057,854	112-128
Exhibit I: U.S. Patent No. 6,552,732	129-144

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS

MICROGRAFX LLC,

      Plaintiff,

      v.

SAMSUNG TELECOMMUNICATIONS
AMERICA, LLC; SAMSUNG ELECTRONICS
AMERICA, INC.; SAMSUNG ELECTRONICS
CO., LTD.

      Defendants.

Civil Action No. 3:13-cv-03599

**DECLARATION OF JOSEPH MILOWIC III IN SUPPORT OF
DEFENDANTS' MOTION TO DISQUALIFY MATTHEW POWERS, STEVEN
CHERENSKY, AND THE TENSEGRITY LAW GROUP AS COUNSEL FOR
MICROGRAFX AGAINST SAMSUNG IN THIS CASE**

I, Joseph Milowic III, declare:
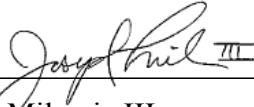
1.   I am a partner at the law firm of Quinn Emanuel Urquhart & Sullivan, LLP,

counsel of record for Samsung Telecommunications America, LLC; Samsung Electronics

America, Inc., Samsung Electronics Co., Ltd. (collectively, "Samsung") in the above-captioned

case. I submit this Declaration in support of Samsung's Motion to Disqualify Matthew Powers,

Steven Cherensky, and the Tensegrity Law Group as Counsel for Micrografx Against Samsung.

2.   Attached to this Declaration are true and correct copies of the following publically

available documents, cited in the instant memorandum in support of the motion to disqualify.

Exhibit A	SEC EDGAR Database, 07/16/2001 Notification of Business Combinations, "Corel to Acquire Micrografx"
Exhibit B	SEC EDGAR Database, 02/27/2002 Filing of Corel Corporation's 10-K, for the fiscal year ended 11/30/2001.
Exhibit C	Texas Business Records, 06/03/2013 Micrografx LLC Registration

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Exhibit D	U.S. Patent and Trademark Office Patent Assignment Database, Assignment History of Asserted Patent 5,959,633
Exhibit E	U.S. Patent and Trademark Office Patent Assignment Database, Assignment History of Asserted Patent 6,057,854
Exhibit F	U.S. Patent and Trademark Office Patent Assignment Database, Assignment History of Asserted Patent 6,552,732
Exhibit G	U.S. Patent No. 5,959,633
Exhibit H	U.S. Patent No. 6,057,854
Exhibit I	U.S. Patent No. 6,552,732
Exhibit J	Declaratory Judgment Complaint, *Samsung v. Vertical Computer Systems*
Exhibit K	Complaint, *Vertical Computer Systems v. Samsung*
Exhibit L	Answer, *Vertical Computer Systems v. Samsung*
Exhibit M	12/20/2010 Notice of Appearance of Steven Cherensky, *Vertical Computer Systems v. Samsung*
Exhibit N	10/13/2011 Notice of Withdrawal of Steven Cherensky, *Vertical Computer Systems v. Samsung*
Exhibit O	Amended Complaint, *Vertical Computer Systems v. Samsung*
Exhibit P	U.S. Patent No. 6,826,744
Exhibit Q	U.S. Patent No. 7,716,629
Exhibit R	Tensegrity Website, Reprinting Article "Powers Parts Ways With Weil, Gotshal, Will Start Own Firm"
Exhibit S	Tensegrity Website, Cherensky Profile
Exhibit T	Tensegrity Website, Reprinting Article "The Powers of Persuasion"
Exhibit U	Tensegrity Website, Ehrlich Profile

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my understanding. Executed in New York, New York on December 23, 2013.

_____
Joseph Milowic III

EXHIBIT A

425 1 body425.htm BODY

Corel To Acquire Micrografx

Companies Sign Definitive Agreement; Acquisition Advances Key Aspects of Corel's Growth Strategy

Ottawa, Canada - Jul 16, 2001
Corel Corporation (NASDAQ: CORL, TSE: COR) and Micrografx, Inc. (OTCBB: MGXI) today announced that they have signed a definitive agreement whereby Corel will acquire Micrografx in a stock-for-stock transaction to be accounted for as a purchase transaction. The transaction is subject to regulatory approval and approval by Micrografx's shareholders.

This acquisition represents yet another important milestone in Corel's corporate strategy which is designed to position the company for long-term growth and profitability. As announced in January 2001, Corel's growth strategy provides a framework for the company's future that is being unfolded in three phases or "horizons". For the first horizon, Corel is focused on two goals: strengthening its position in the graphics market and effectively managing its business applications division to upgrade its large base of existing users. In horizon two, Corel will more fully embrace the power of the Web by developing advanced Web-based functionality within existing and new product lines. For horizon three, Corel will develop new technology to target fast-growing emerging markets, such as wireless and Web-based services. Corel is able to advance key aspects of each horizon as a result of this acquisition.

"This is clearly a strategic opportunity for both Corel and Micrografx, for three main reasons," said Derek Burney, president and CEO of Corel Corporation. "First, by adding these technologies to our arsenal of award-winning applications, we will broaden and enhance our current portfolio and tailor our products to the distinct customer segments we've identified. The technical illustration market is an important customer segment we're targeting and we look forward to combining Micrografx's demonstrated leadership in this area with our own strengths to better serve our customers.

"Second, in addition to adding value to our graphics lineup, we will leverage the innovative emerging technologies that Micrografx has developed to accelerate the execution of our horizon two and three objectives," added Mr. Burney. "These technologies will be key ingredients in our development of new offerings which will enable our customers to create graphics-rich content that can be output easily and simultaneously to multiple channels, including the Web.

"Finally, by devoting greater resources to Micrografx's Enterprise Process Management (EPM) division, we will become a major force in, what is for us, a new and lucrative market, while at the same time utilizing those technologies to broaden our portfolio of creative product applications."

"We are very pleased to be combining our resources with Corel's," said Jim Hopkins, chairman and CEO at Micrografx, Inc. "Supported by Corel's development expertise, market strengths, international reputation and strong financial position, we will be able to move forward with some exciting new business plans we've developed for our existing and emerging technologies."

Corel and Micrografx share synergies which, when the two operations are combined, are expected to generate new revenue opportunities and cost efficiencies from which its collective worldwide customer base will benefit. Based on preliminary estimates, after the realization of anticipated synergies and excluding any one-time integration costs, this acquisition is expected to be accretive to cash flow and cash earnings per share in the fourth quarter of Corel's fiscal 2001 and thereafter. Over the next several weeks, Corel and Micrografx will work together on a comprehensive plan outlining how best to integrate the two companies. Following the closing of the deal, which is expected to occur in Corel's fourth quarter, they will announce further details related to the integration plan.

Exchange terms:

The deal is structured to provide Micrografx shareholders with a transaction value equivalent to one times Micrografx's fiscal 2001 annual revenues, subject to certain adjustments, totaling approximately US $32.0 million ("Transaction Value"), or approximately US $2.00 per Micrografx share.

In the event that Corel's common share price at closing is less than US $2.90, Corel will have the option to pay the Transaction

Value in cash.

In the event that Corel's common share price at closing is equal to or greater than US $2.90, Corel will issue common stock with a then-current value equivalent to one-half of the Transaction Value at the closing, the number of shares to be issued being determined by Corel's common stock price at closing. In addition, Corel will issue participation rights for the remaining one-half Transaction Value. The value under these rights will be paid to the holders at the first anniversary of the closing date. In the event that Corel's common stock price at that time is equal to or less than the price at closing, Corel will pay in cash the remaining one-half Transaction Value. If Corel's common stock price at that time is higher than the price at closing, Corel will issue common stock with a then-current value equivalent to the remaining one-half Transaction Value plus, on a per share basis, 18 per cent of any increase in the price of Corel common stock in the 12-month period following closing. Corel expects that the maximum number of shares that it will issue is approximately 11.0 million.

Corel Corporation

Corel Corporation provides its customers with the creative tools they need to unleash their imaginations. With its heritage of software innovation and a solid franchise of loyal customers worldwide, Corel has earned its reputation as an internationally recognized developer of award-winning graphics and business productivity applications on the Windows®, Macintosh®, Linux® and UNIX® platforms. In 2001, Corel will continue to expand its support of the Web, delivering the Internet's versatility to customers through exciting Web-based applications, content and services. Corel will also be developing applications for Microsoft's .NET platform as part of its commitment to provide customers with a full range of applications and services over the Internet. With its headquarters in Ottawa, Canada, Corel continues to be one of Silicon Valley North's most exciting and influential software companies. Corel's common stock trades on the NASDAQ Stock Market under the symbol CORL and on the Toronto Stock Exchange under the symbol COR. For more information on Corel Corporation, please visit www.corel.com.

Micrografx, Inc.

Micrografx is a recognized global leader in providing enterprise process and graphics software, solutions and services. Micrografx Enterprise Process Management (EPM) solutions allow senior and mid-level executives to identify and value key performance improvement initiatives. These initiatives range from improving eBusiness processes, to quality initiatives like ISO 9000 and Six Sigma, and key line-of-business application initiatives such as supply chain management. Micrografx Graphics Software Division supplies companies and individuals with graphic solutions for technical illustration, business diagramming, and digital image processing. Visit www.micrografx.com for more information or contact 1-888-744-1210.

The proxy statement/prospectus will be filed with the Securities and Exchange Commission (SEC) by Corel and Micrografx. Investors and security holders are advised to read the proxy statement/prospectus and any other documents filed with the SEC regarding the acquisition referenced in the foregoing information, when it becomes available, because it will contain important information. This notice does not constitute an offer of any securities for sale. Investors and security holders may obtain a free copy of the proxy statement/prospectus (when available) and other documents filed by Corel and Micrografx with the SEC at its Web site at www.sec.gov or at the SEC's public reference rooms at 450 Fifth Street, N.W., Washington, D.C. 20549 or at any of the SEC's other public reference rooms in New York, New York, and Chicago, Illinois. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. The proxy statement/prospectus and such other documents may also be obtained at no charge by directing such requests to: Corel Corporation, 1600 Carling Avenue, Ottawa, ON, K1Z 8R7, Attention: Investor Relations, telephone (613) 728-8200, email: ir@corel.ca and to Micrografx, Inc., 8144 Walnut Hill Lane, Suite 1040, Dallas, Texas, 75231, Attention: Investor Relations, telephone: (469) 232-1000.

Micrografx, its officers, directors, employees and agents may be soliciting proxies from Micrografx's shareholders in connection with the acquisition. Information concerning the participants in this solicitation will be set forth in the proxy statement/prospectus.

This press release contains forward-looking statements as defined by the United States Private Securities Litigation Reform Act of 1995, involving the company's expectations about future financial results and other matters. These statements reflect management's current forecast of certain aspects of the companies future business. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results of operations to differ materially from historical results or current expectations. The words "plan", "expect", "believe", "intend", "anticipate", "forecast", "target", "estimate" and similar expressions identify forward-looking statements. Risk factors include the consummation, integration and impact of the Micrografx acquisition, shifts in customer demand, product shipment schedules, product mix, competitive products and pricing, technological shifts and other variables. Readers are referred to Corel's most recent reports filed with the Securities and Exchange Commission for a more complete discussion of the other risks and uncertainties. The factors underlying forecasts are dynamic and subject to change. As a result, forecasts speak only as of the date they are given and do not necessarily reflect the company's outlook at any other point in time. The companies do not undertake to update or review these forward-looking statements.

The risk factors relating to Micrografx include, but are not limited to, the following: the consummation of Corel's acquisition of Micrografx, product development, product introductions, licensing agreements, technological change, competition, international operations, changes in distribution channels, seasonality, growth in the enterprise solutions business of Micrografx, market demand and acceptance of products, the impact of changing economic conditions, fluctuation in foreign currency exchange rates, and others detailed in Micrografx's Annual Report on Form 10-K, Quarterly Reports on Forms 10-Q and other SEC filings.

APP. 006

EXHIBIT B

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(MARK ONE)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended November 30, 2001

OR

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM _____ TO _____

Commission file number 0-20562

COREL CORPORATION

(Exact name of Registrant as Specified in its Charter)

Canada   **Not Applicable**

(State or Other Jurisdiction of Incorporation or Organization)   (I.R.S. Employer Identification Number)

1600 Carling Avenue
Ottawa, Ontario, Canada   KIZ 8R7
(Address of Principal Executive Offices including Zip Code)

(613) 728-8200
(Registrant's Telephone Number, Including Area Code)

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act:

Title of Each Class

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Common shares, no par value

Common share purchase rights

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes   [X]   No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (Section 229.4054 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

As of February 15, 2002, the aggregate market value of Common Shares held by non-affiliates of the registrant, based on the closing sales price of $1.56 of the Registrant's Common Shares as reported on the NASDAQ National Market, was $125,928,529. As of that date 80,723,416 Common Shares were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None

COREL CORPORATION

FORM 10-K

For The Fiscal Year Ended November 30, 2000

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All financial information contained in this report is expressed in United States dollars, unless otherwise stated.

PART I

PART I

Item 1. Business

GENERAL

For the purposes of this report, except in the Consolidated Financial Statements and Management's Discussion and Analysis thereon, unless the context otherwise requires, "Corel" and "the Company" refer to the consolidated operations of Corel Corporation and its wholly owned subsidiaries. The Company was incorporated as Corel Systems Corporation under the Canada Business Corporations Act by Articles of Incorporation, dated May 29, 1985. The name of the Company was changed to Corel Corporation in May 1992. The Company was continued under the Canada Business Corporation Act by Articles of Amalgamation dated December 1, 1998.

Corel develops, manufactures, licenses, sells and supports a wide range of software solutions for home and small business users, creative professionals and enterprise customers. Corel's software is available for use on most industry computers, including those produced by International Business Machines ("IBM") Corporation, Apple Computer, Inc., and Linux systems. The Company plans to leverage its technology assets and experience to enhance its relationships with existing customers, as well as target new customers in emerging markets created by the expansion of the Web and the increasing demand for graphics-rich visual communication. Corel also plans to develop applications for Microsoft Corporation's

Corel's business strategy emphasizes the development of a broad line of software solutions for business, academic and personal use, marketed through multiple channels of distribution. These software solutions are designed to provide customers with tools to create, publish and deploy content. The Company also plans to leverage and extend its technology base using partnerships and acquisitions to develop and market solutions that maximize customers' ability to exchange information.

Historically, the Company has been a developer and marketer of products for users seeking content creation software in either the Creative Products or Business Applications markets. The Creative Products group included graphics applications designed for business, academic and home markets. The Business Applications Products group created business productivity applications designed for those same markets. In January 2001, the Company's new management team announced a detailed strategy designed to capitalize on its current technology assets while laying the foundation for long-term revenue growth. Organized around three phases, the Company's first phase was centered on capitalizing on immediate opportunities, which include current rebranding efforts and releasing upgrades to existing products. Subsequent phases of the strategy are focused on making strategic investments to capture new opportunities in the enterprise market - opportunities driven by the proliferation of content and the need to more effectively create, manage and share that content within complex business environments. While addressing immediate opportunities and investing to capture new markets, the Company also consistently tracks trends in order to effectively address customer needs as they evolve with the expansion of wireless technology and Web-based services.

In line with the first two phases of the January 23, 2001 strategy, on October 29, 2001, Corel acquired Micrografx, Inc. Micrografx developed enterprise process and graphics software, solutions and services. The technology acquired will aid in the development of new products that enable customers to create graphics-rich content that can be output easily and simultaneously to multiple channels, including the Web. This acquisition also gave Corel access to a new market, Enterprise Process Management ("EPM").

On August 7, 2001, Corel and SoftQuad Software, Ltd. ("SoftQuad") announced a definitive agreement whereby Corel will acquire SoftQuad in a stock-for-stock transaction. SoftQuad is a developer of eXtensible Markup Language ("XML")-enabling technologies and commerce solutions for e-Business. Technologies acquired from this acquisition will provide the necessary technologies to develop cross-media publishing solutions. The transaction is subject to approval of SoftQuad's shareholders at a meeting to be held March 14, 2002.

The Company continues to develop and market primarily content creation software. Over the medium to long term, the Company plans to leverage and extend its stable of technologies in order to deliver customized solutions for the enterprise customer. The Company's Sales and Marketing groups have been reorganized to more effectively address three customer profiles: home and small business, creative professionals and enterprises. Today, the majority of the Company's revenues are generated through sales to home and small business customers. Acquisitions are expected to play an important role in supplementing the Company's current technology base. For example, the acquisition of Micrografx is expected to assist the Company with its plans to grow revenues with its EPM and technical graphics solutions. The Company believes that the rapid change in technology related to personal computers, and peripheral devices such as cell phones and portable digital assistants, has created an opportunity for the Company. Customers are seeking solutions that will enable them to create content and deliver it across multiple communication devices while maintaining the integrity of the content. The Company believes that this cross-media publishing space represents the greatest potential as the underlying technologies provide the opportunity to develop content solutions for enterprises.

The Sales group is responsible for building long-term business relationships with customers. This department is organized to serve three main customer types: end users, original equipment manufacturers ("OEM") and enterprises. The department also focuses directly on large organizations,

offering tailored sales and organizational support to the remaining twelve countries by partnering with distributors, resellers and OEMs. The Customer Service and Technical Support departments support Corel's products with technical support and customer service for end users and organizations.

During fiscal 2001, the Company established a new division, Strategic Relations, to foster key relationships with existing and potential high profile industry partners. As the Company advances its strategy to provide enterprise content solutions, it will become increasingly important to strengthen its partnerships with content management solution providers.

Other supporting departments are responsible for managing business operations and overall business planning. This includes the process of manufacturing and delivering finished goods and licences, as well as corporate functions such as finance, administration, human resources, legal, business development and information technology.

The Company has only one global operating segment and sells its products worldwide from four geographic regions. Note 14 to the Consolidated Financial Statements (see Item 8) sets forth financial information by product group, sales channel and geographic region and is incorporated herein by reference.

PRODUCTS   **Home and Small Business Applications**

The Company develops and markets graphics and business applications. Primary examples of graphics applications include illustration, photo-editing, painting, 3D rendering, and animation programs. Corel's graphics applications are developed principally for Microsoft Windows ("Windows") and Macintosh operating systems, and are available in English and French as well as selected other languages. All of the following products have been developed and are available in market.

CorelDRAW Graphics Suite. CorelDRAW 10 Graphics Suite provides home and small business users with a set of integrated graphics applications. The suite's modules features common commands, and extensive use of object linking and embedding ("OLE") cross-application capabilities. CorelDRAW 10 Graphics Suite is available in several versions with certain combinations of modules, supporting utilities, clipart images, fonts and photos available for the various operating system platforms.

CorelDRAW 10 is an illustration program that allows users to produce color illustrations incorporating both text and objects. CorelPHOTO-PAINT 10 is a photo-editing and painting application that enables users to apply global photo-retouching and pixel-by-pixel editing to scanned or photographic images. Corel R.A.V.E. gives users the ability to create effects that take place over a period of time, resulting in an animation. Supporting utilities include: Microsoft Visual Basic for Applications 6.2, an application that allows developers to build custom business solutions by automating and integrating off-the-shelf software applications to meet specific customer needs; Canto Cumulus Desktop LE 5.0, a tool that organizes media and graphics files into a catalog which can be indexed so that users can find images, designs, clipart images, stock photos and QuickTime movies quickly and easily; Bitstream Font Navigator 4.0, which gives users a fast and easy way to find, install and organize fonts into manageable groups, and view and print font samples; Corel TEXTURE 10, a tool for creating realistic natural textures; CorelTRACE 10, a bitmap-to-vector conversion utility for images and text; Corel CAPTURE 10, a tool for capturing portions of, or the entire, application window. CorelDRAW 10 Graphics Suite also includes Adobe Acrobat Reader 4.0 and Adobe Photoshop compatible plug-in filters, including Digimarc Digital Watermarking and Human Software Squizz!.

APP. 012

Corel Picture Publisher. Corel Picture Publisher is a photo-editing, image composition and painting application. It features a variety of image-enhancing filters to improve the quality of scanned images, and special effects filters, such as the new Red Eye Removal and Smart Blur, that alter the appearance of images. Corel Picture Publisher is available in various versions for various operating systems.

CorelDRAW ESSENTIALS. Like CorelDRAW Graphics Suite, CorelDRAW ESSENTIALS is a suite that features graphics, page layout, photo-editing and painting tools to help users create graphics projects for print and the Web. CorelDRAW ESSENTIALS is designed for users who have moved beyond entry-level graphics products. It is a more sophisticated solution that provides more power and creative control but is easier to learn to use than a professional tool. It includes modified versions of CorelDRAW 9 and CorelPHOTO-PAINT 9, as well as Canto Cumulus Desktop LE 5.0, media asset management, Corel CAPTURE 9, a screen capture utility, Adobe Acrobat Reader 5, QuickTime 5, Digimarc Digital Watermarking, Human Software Squizz!, and clipart images, symbols, photos and fonts.

WordPerfect Family Pack. WordPerfect Family Pack 3 is a collection of software applications designed to meet the home computing needs of all the members of a household. Applications in WordPerfect Family Pack 3 include Task Manager, WordPerfect 9, Quattro Pro 9, Corel Print House 5, Corel Photo House 5, Compton's Interactive World Atlas, Mavis Beacon Teaches Typing 11, McAfee VirusScan, and Internet content filter CYBERsitter 2000.

Corel VENTURA. Corel VENTURA is a suite of high-end desktop publishing software programs for publishing documents of any size, length or complexity. The latest version of Corel VENTURA allows users to publish documents to HTML, portable electronic formats, such as Envoy and Adobe Acrobat, a CD-ROM, over an internal network or on the Internet.

Bryce. Bryce offers an easy way to create, explore and animate 3D imagery for multimedia, video and the Web.

Creative Professional

The Company develops software for creative professionals who are looking for innovative, powerful enhancement tools that easily integrate into their professional workflow. In July 2001, the Company launched procreate, a collection of enhancement tools designed specifically to address the preferences of this target customer. Available for both Macintosh and Windows, procreate products are optimized for Mac OS X, leveraging the strengths of Apple's next-generation operating system. All of the following products have been developed and are available in market.

KPT effects. KPT effects, a member of the procreate line of products, is a collection of image filters that produce effects for print and the Web. KPT effects includes plug-in filters that extend and enhance the creative possibilities of Adobe Photoshop and other compatible products.

Painter 7. Also part of the procreate line of products, Painter 7 captures the subtleties of an artist's style with true-to-life natural-media tools, including Watercolor, Liquid Ink, Color Reduction, oil paints, pens and pastels, enabling horizons of high-quality output for print and the Web.

KnockOut. The third product offered under the procreate line, KnockOut 2 is a masking tool that can perform complex masking functions while preserving fine image details, such as blurred or out of focus edges, hair, smoke and shadows.

APP. 013

Enterprise

The Internet has created new opportunities for businesses to enhance service and deliver information to partners and customers electronically. Today, Web sites are an important source of product and service information across many industries, and businesses rely on them to improve customer service and enhance market reach. This change, however, has brought with it new demands: whereas at one time corporations published predominantly in printed form only and updated publications in manageable cycles, today businesses are expected to deliver up-to-date information almost continuously, through Web sites, through wireless devices and in a variety of formats, as well as in printed form. This has taxed the existing print publishing processes. In this new environment, for example, information is often re-used from one publication media to another and across many documents. Changing it may imply revising hundreds of individual documents at once. Tracking and executing these revisions continuously to ensure accurate information delivery on multiple media, 24 hours a day, seven days as week, often requires new systems and processes. XML-based content creation provides the opportunity to effectively address the demands created by the need to continuously exchange information of varying formats across different devices. XML is a language that allows for the exchange of data on the World Wide Web that is an emerging standard for business-to-business ("B2B") e-commerce. Content management systems support the publishing process from authored document to final output, controlling and tracking the flow of work and managing revisions. XML, on the other hand, facilitates the re-use of information across documents and delivery media. XML and other open standard technologies enable organizations to streamline, automate and manage information flow from potentially many thousands of authors, and to manage and control the delivery of this information to many Web sites and printed documents. Today, traditional word processors and desktop publishing tools do not produce XML content that is suitable for cross-media publishing applications. The Company's vision is to offer solutions that not only enable non-technical authors within enterprises to create various types of content, but also to interact with and share XML content more easily, thereby allowing enterprises to deploy XML content management solutions more broadly within their organizations and across many delivery media.

Although the Company currently offers products for the enterprise market, its products and infrastructure require augmentation to address this market effectively. Targeted customers include small and medium enterprises and large organizations that produce or edit substantial documents, with power and control as their key requirements. Business applications are designed for use by a broad class of end users, regardless of business, industry or market segment. Primary examples of productivity applications are word processing, spreadsheet and presentation graphics programs. Corel's productivity software applications are currently available on the Windows operating system, and are available in English and French. Future versions of these offerings will be enhanced by implementing proprietary technology and technologies through acquisition, resulting in solutions that better meet the needs of enterprise customers.

The Company intends to expand its presence in the enterprise space by also offering future releases of technical graphics software. With the acquisition of Micrografx, the Company can expand on its ability to offer standards-based products and services that enable companies to leverage their valuable investments in engineering drawings, technical illustrations, schematics and diagrams, and to optimize them for use in innovative Web-based applications such as parts catalogues, technical documentation, shop-floor viewing, and real-time monitoring and control systems.

Also through the acquisition of Micrografx, the Company is able to offer enterprise customers Enterprise Process Management (EPM) solutions. These solutions are targeted at organizations implementing a strategy for business process improvement, requiring tools and services to model and simulate their business processes. These tools exist to help management supervise this key sequence of events and to assist the organization to perform at optimal levels. All of the following products have been developed and are available in market.

APP. 014

Upon the completion of the acquisition of SoftQuad, the Company will become a leading provider of solutions software products for the creation and management of XML-based content. SoftQuad's technology forms an integral piece of the Company's strategy to develop and market content solutions to existing and prospective enterprise customers.

WordPerfect Office. WordPerfect Office 2002 is a suite of software programs featuring seamless integration of the most commonly used desktop applications. It combines document creation with graphics and Internet capabilities. There are several versions of WordPerfect Office available. WordPerfect Office 2002 - Standard Edition contains the following applications: WordPerfect 10, Corel's principal word-processing program, providing all the features that users of word-processing products expect plus the ability to handle graphics, tables, spreadsheet data, charts, and images imported from other software programs; Quattro Pro 10, an integrated spreadsheet program with database, business graphics and Internet capabilities; Corel Presentations 10, a presentation graphics program for producing slide shows, overheads, transparencies and prints; and CorelCENTRAL 10, Corel's personal information manager and calendar application. In addition to the applications offered in the standard version, WordPerfect Office 2002 - Professional Edition includes Paradox 10, a powerful data management tool that delivers advanced features such as the ability to publish a database to the Web, and the speech-recognition technology of Dragon NaturallySpeaking.

iGrafx FlowCharter. iGrafx FlowCharter creates powerful, interactive diagrams of business processes, workflow, computer networks, Web sites, and databases, among others.

iGrafx Process Central. iGrafx Process Central is a central repository that integrates with iGrafx FlowCharter to give stakeholders real-time access to all enterprise process data, and save users time developing enterprise models by linking and re-using models whenever possible. It also provides comprehensive repository capabilities, such as access and security control, concurrency control, versioning and configuration management.

Corel DESIGNER. Corel DESIGNER is the technical graphics solution that bridges the gap between AutoCAD and camera-ready images, providing a graphical tool set that supports a range of file types. Engineering departments and technical publishers can take advantage of it to create presentation-quality graphics that can be easily utilized in office software documents, presentations, Web and Intranet pages, and much more. With tools for image editing and 3D creation, Corel DESIGNER is a complete graphics solution for technical illustration.

XMetal. Released in May 1999 by SoftQuad, XMetaL is SoftQuad's flagship product, and is expected to become a member of the Company's product line upon completion of the acquisition of SoftQuad in the first half of fiscal 2002. XMetaL is a software program that enables organizations to create XML content easily and avoid the complexities of formatting languages. As organizations continue to adopt XML, they will need to create valid XML documents that conform precisely to the rules of a specific application. For example, product descriptions for product catalogues, user guides for consumer products, articles, newsletters, purchase orders, bills of material and part specifications all have particular XML rules as to their structure and syntax. XMetaL enables non-technical individuals to create valid XML documents without having to remember and correctly apply all these rules. XMetaL reduces training costs and enables businesses to deploy XML applications broadly, both internally and to business partners.

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RESEARCH AND DEVELOPMENT

The software industry is characterized by frequent changes in technology and user preferences, which require constant attention to software technology trends, shifting consumer demand and rapid product innovation. The pace of change has recently increased due to the burgeoning interest in the Internet, networking in general and new programming languages and platforms, such as XML and Microsoft's .NET platform.

Accordingly, Corel must be able to provide new software products, and modify and enhance existing products on a timely and continuing basis to be competitive. Corel employs a strategy of internally developing software, contracting for the development of certain products by third parties and acquiring or licensing technology that will, in most cases, be enhanced by Corel. Corel believes that its ability to maintain technological competitiveness will depend in large part upon its ability to successfully enhance its existing products, develop new products on a timely basis and acquire or license complementary technologies and products in a timely manner. The Company strives to become as informed as possible at an early stage about changing usage patterns and hardware advances that may affect software design.

Corel's research and development expenses were $25.3 million, $43.9 million and $40.0 million in fiscal 2001, 2000 and 1999, respectively.

MANUFACTURING

The principal materials and components used in Corel's products include computer media (diskettes, CD-ROMs or tapes) and documentation. Corel is often able to acquire component parts and materials on a volume discount basis.

Corel contracts all of its manufacturing activity to third parties. Manufacturing involves the duplication of computer media and user manuals, assembly of components, spot testing of the product and final packaging, all in accordance with Corel's specifications. Corel believes there is an adequate supply of and source for the raw materials used in its products, and that multiple sources are available for media duplication, manual printing and final packaging. Corel's products are generally shipped as orders are received and accordingly, Corel has historically operated with little backlog.

MARKETING, SALES AND DISTRIBUTION

Corel's marketing and sales efforts are directed toward several customer types including end users, corporate accounts and OEMs. Corel's marketing and sales staff seek to build long-term relationships with customers and end users of Corel products. In addition to the OEM channel, Corel has four major geographic sales and marketing areas: Canada, United States of America, Europe-Middle East-Africa (EMEA) and other.

End user marketing activities cover all of Corel's products and target end users who make individual buying decisions for the computers they use at work or at home. These activities include developing and administering reseller relationships, channel marketing and promotions, end user marketing programs and seminars, events and product training for resellers.

The corporate licensing unit has responsibility for sales and marketing activities that target groups of users in all organizations and enterprises. The unit works directly with these organizations and enterprises, as well as with channel partners such as distributors, value-added resellers (VARs) and large account resellers, to provide complete desktop productivity solutions to this customer segment. The unit's sales and marketing activities include providing technical training to channel resellers, and supporting and providing seminars, events and sales training for channel partners. The unit also has responsibility for administering the Corel Licence Programs (CLP) worldwide. Key products for the corporate licensing unit are graphics and productivity software applications.

The OEM customer unit works with OEMs that pre-install or bundle Corel software on their computers or peripheral hardware.

Finished Goods Channels

Distributors and Resellers. Corel sells its products worldwide to over 160 distributors for resale through software resellers. Distributors include Ingram Micro, Merisel, Tech Data and Navarre. Resellers include ASAP Software and Software House International. Within the United States and Canada, Corel has sales representatives and support personnel who solicit orders from distributors and resellers, and provide product training and sales support. In other countries, Corel's marketing personnel provide product training and sales support.

Licensing. Corel has a program designed to make it easier for large or small organizations to acquire and maintain Corel products. CLP consists of three separate programs. CLP Universal offers flexible software acquisition, licensing and Maintenance options specially designed to meet the needs of large multinational organizations. Targeted audiences include technology specialists and influential end users in large enterprises. Marketing efforts and fulfillment are generally co-ordinated through Corel's network of large account resellers. CLP Choice offers flexible software acquisition and licensing options specially designed to meet the needs of small- and medium-sized organizations. Marketing efforts and fulfillment are generally co-ordinated through Corel's network of distributors and resellers. CLP Freedom is designed to make it easy and affordable for organizations to standardize on a single software solution. This package allows organizations to license Corel's business or graphics software products for a one- or two-year term. The minimum licensing commitment to qualify is only 100 employees or workstations within an entire organization or a defined portion of an organization.

Solution Partners. Corel's Solution Partners program is a support relationship with independent developers and consultants that provide products, solutions or services around Corel products. The program supports independent software vendors, consultants, VARs, system integrators, custom application developers and solution developers, as well as technical support and training organizations. Under this business partnership strategy, the Company provides sales and product information, development services, access to beta software, discounts on Corel products and dedicated developer technical support.

Approved Service Bureaus. The Corel Approved Service Bureau Program (CASB) supports organizations that output and render files created with Corel's graphics software applications such as CorelDRAW and Corel VENTURA. Under CASB, the Company provides members with product information, free priority technical support and referral services through Corel's Bulletin Board service, and customer service and technical support networks.

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Direct Marketing. Corel promotes some of its products through direct marketing techniques directed toward existing and potential users of Corel's products. Fulfillment of product to the end user is either by direct shipment or through resellers.

Online Distribution. Corel offers its products online through third-party Web sites, including buy.com and egghead.com, as well as through its own sites, which include Corel Store and ClipartCity.com.

OEM Channel

Corel markets certain productivity, graphics and consumer software under licence agreements with OEMs that grant the OEMs the right to distribute copies of Corel's products with their OEM hardware products. Corel has OEM agreements covering one or more of its products with most of the major PC and peripheral hardware vendors, including Agfa, Canon, Compaq, Cybermax, Dell, Epson, Gateway 2000, Hewlett-Packard, Packard Bell, PCChips, Quantex and Vobis.

Advertising and Promotion

Advertising, direct marketing and marketing materials are targeted to various end user groups through a variety of programs: (i) extensive worldwide advertising in consumer media and trade publications; (ii) joint promotions with computer retailers under which qualifying resellers and OEMs are reimbursed for certain advertising expenditures; (iii) trade show and user group participation; and (iv) direct corporate marketing efforts. The Company has an in-house tactical and strategic marketing department which, in conjunction with third-party agencies, is responsible for conceptualizing, producing, placing and monitoring the effectiveness of Corel's global ad copy, packaging and promotional material. The Company maintains a broad advertising campaign emphasizing the Corel brand identity.

CUSTOMERS

As described above, Corel has three main customer types: end users, organizations or enterprises, and OEMs. Most end users of Corel products are individuals in business, government agencies, educational institutions and at home. These end users obtain Corel products primarily through distributors, resellers and OEMs. Note 14 to the Consolidated Financial Statements (see Item 8) identifies, as required, customers that represent more than 10% of Corel's revenues.

PRODUCT SUPPORT

Corel provides product support options to meet the needs of users of Corel products. Support personnel are located in Ottawa, Ontario. Certain support is also provided by qualified third-party support organizations in accordance with Corel's specifications for quality and timeliness of the support response. Corel generally hires individuals with product expertise and provides them with the productivity tools, continuous product education, training and consistency processes to deliver quality support for Corel products. Coverage options currently range from standard no-charge toll telephone support to fee-based offerings, providing unlimited toll-free telephone and technical support for all Corel products, 24 hours a day, seven days a week.

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Users have access to Corel's Knowledge Base, a database of technical support articles that is updated regularly with useful information regarding Corel products. Corel provides access to the Knowledge Base, technical support information and frequently asked questions and answers via its Web site (*www.corel.com*). Corel maintains a bulletin board service for European customers and a forum on CompuServe to provide users with a mechanism to provide feedback as well as receive technical updates and notes. Additionally, users can access Corel's automated Fax on Demand system where up-to-date information about common issues and tips and tricks is stored in numbered documents.

Corel's Customer Service representatives, including a number of third-party organizations, answer questions about product specifications and pricing, sell Corel products, and issue replacement media and documents.

COMPETITION

Competition within distribution channels may adversely affect the Company's business. Corel competes with other software vendors for access to distribution channels, and the attention of customers at the retail level and in corporate accounts. Other competitors with greater market share and significantly greater financial resources may command the attention of the retail accounts, the corporate market and OEMs. In order to compete for distribution channel space, the Company must offer compelling reasons to distribute its products at a reasonable price and offer compatibility with competitive products. The Company must also use innovative marketing ideas in order to compel the distributor to carry its products.

Inability to maintain distribution channel space could have a material adverse affect on the Company's business, results of operations and financial condition.

The marketplace is intensely competitive and rapidly changing, and the Company may not be able to compete successfully in the future. The software industry is highly competitive and subject to rapid technology change. Many of the Company's current and potential competitors have larger technical staffs, more established and larger marketing and sales organizations, and significantly greater financial resources. The rapid pace of technological change constantly creates new opportunities for existing and new competitors, and can quickly render existing technologies less valuable. As the market for the Company's products continues to develop, additional competitors may enter the market and competition may intensify. Inability to compete in the following factors could have a material adverse affect on the Company's business, product performance, product features, ease of use, reliability, hardware and competitor compatibility, brand name recognition, product reputation, pricing levels of advertising, availability and quality of customer support, and timeliness of product upgrades.

The Company's software products targeted at the home and small business user face substantial competition from a wide variety of companies, including Adobe Systems Incorporated, JASC Software, Inc., Macromedia Inc., and Microsoft. The Company's competitors in the creative professional marketplace include Adobe, Macromedia and Apple Computer, Inc. Enterprise solutions competitors (currently primarily in the productivity or office suite marketplace) include Microsoft, IBM (Lotus Development Corporation) and Sun Microsystems, Inc. As the Company makes advancements into the enterprise solutions market with content creation solutions, potential competitors include Adobe and Microsoft.

PROPRIETARY RIGHTS

Corel regards certain features of its internal operations, software and documentation as proprietary, and relies on contract, patent, copyright, trademark, trade secret laws and other measures to protect its proprietary information. The Company believes, however, that due to the rapid pace of innovation within its industry, factors such as the technological expertise and creative skills of its personnel are more important to establishing and maintaining technological leadership than are the various legal protections of its technology.

Corel provides its products to end users under non-exclusive licences, which generally have a perpetual term, with the exception of academic licences, and are transferable provided the transferor erases or destroys its copy of the product. In special circumstances, Corel makes source code available for certain of its products. The provision of source code may increase the likelihood of misappropriation or other misuse of Corel's intellectual property. Corel licenses its products pursuant to "shrink wrap" and/or "click wrap" licences that are not signed by licensees and therefore may be unenforceable under the laws of certain jurisdictions. In addition, the laws of some foreign countries do not protect Corel's proprietary rights to the same extent as do the laws of Canada and the United States.

From time to time, Corel receives notices from third parties asserting that Corel has infringed their patents or other intellectual property rights. Corel may find it necessary or desirable in the future to obtain licences from third parties relating to one or more of its products, or relating to current or future technologies. There can be no assurance that third parties will not assert infringement claims against Corel in the future with respect to current or future products, or that any such assertion will not require Corel to enter into royalty arrangements or result in costly litigation. As the number of software products in the industry increases and the functionality of these products further overlap, Corel believes that software developers may become increasingly subject to infringement claims. Any such claims, with or without merit, can be time consuming and expensive to defend.

EMPLOYEES

As of February 15, 2002, Corel employed approximately 889 people on a full-time basis. Corel's success depends to a significant extent upon the performance of its executive officers and key technical, sales and marketing personnel. Corel believes that its future success will also depend in large part on its ability to attract and retain highly skilled technical, managerial, and sales and marketing personnel. Competition for employees is intense in the software industry. To date, Corel believes it has been successful in its efforts to recruit qualified employees, but there can be no assurance that Corel will continue to be as successful in the future. None of Corel's employees are subject to collective bargaining agreements. Corel believes relations with its employees are favourable.

Item 2. Properties

	Area	Expiration

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Location	Purpose	(in square feet)	year
Ottawa, Canada	Corporate head office	177,000	2015
Ottawa, Canada	Training	13,025	2002
Dublin, Ireland	Administration	7,292	2025
Dallas, Texas	Sales and marketing	13,904	2005
Portland, Oregon	Sales and development	10,908	2006
Annapolis, Maryland	Sales and development	10,588	2005
Maidenhead, U.K.	Sales and administration	10,500	2015
Munich, Germany	Sales and administration	7,261	2005

Item 3. Legal and Government Proceedings

On December 15, 1999, the Company filed suit against the United States of America in the U.S. District Court for the District of Columbia, in Washington, D.C., for the actions of its agency, the Department of Labor, in conducting an unlawful procurement. The Complaint claims that, in its goal to standardize its office automation suite, the Department of Labor violated various statutes, regulations and treaties by "sole-sourcing" its contract to a competing vendor rather than conducting an open and fair procurement in accordance with U.S. law. In dispute is the decision by the Department of Labor to standardize on a competing product despite the fact that, at the time of the award, the WordPerfect family of products was licensed for a majority of the Department's 20,000 work stations. As a remedy, the Company sought an immediate injunction against the further implementation of the "sole source" contract and to have it declared void. The Company also sought to have the standardization process and related procurement activities tendered in a fair and open competition in accordance with the applicable statutes, regulations and treaties. The Answer to the Complaint was filed by the Government on March 21, 2000. The Government filed a motion to have the Company's action dismissed for lack of jurisdiction and, in the alternative, for summary judgement. The Company filed its motion for preliminary injunction. All motions were argued on August 11, 2000, in conjunction with arguments on the merits of the case. In the final adjudication of this case on September 17, 2001, the Court dismissed the Company's action, stating that the Court lacked subject-matter jurisdiction over the Company's claims. The Company does not intend to appeal this judgement.

On March 13, 2000, the Company was served with a complaint filed against it and Dr. Michael C.J. Cowpland by plaintiffs Anthony Basilio and Fred Spagnola in the United States District Court for the Eastern District of Pennsylvania. The Complaint was filed on behalf of all persons who purchased or otherwise acquired Corel common shares between December 7, 1999 and December 21, 1999 (the "Class Period"). The Complaint alleges that the defendants violated various provisions of U.S. federal securities laws, including Section 10(b), Section 20(a) and Rule 10b-5 of the Securities Exchange Act of 1934, as amended, by misrepresenting or failing to disclose material information about the Company's financial condition. The Complaint seeks an unspecified amount of money damages. Numerous other complaints were filed thereafter, each making similar allegations and referencing the same Class Period as the initial claims. The Court appointed Fred Spagnola, Michael Perron and David Chavez as Lead Plaintiffs, and the law firms of Weinstein, Kitchenoff Scarlato & Goldman Ltd., and Savett Frutkin Podell & Ryan, P.C. as Co-Lead Counsel. The Court has consolidated all pending cases in the Eastern District of Pennsylvania. An Amended Consolidated Complaint was served on or about August 14, 2000, which expanded the Class Period, from December 7, 1999 to March 20, 2000 (inclusive), and contains several new allegations. The Company filed a Motion to Dismiss the Consolidated Class Action Complaint on the grounds of Forum Non Conveniens and Failure to State a Claim, which was dismissed by the Court on May 31, 2001. On or about July 6, 2001, the Company and co-defendant Cowpland filed their answers to the amended Complaint, denying all liability to Plaintiffs and asserting various affirmative defenses. The Company has deposed four lead plaintiffs. Discovery requests have been served by both sides. By order dated February 1, 2002, the Court granted Plaintiffs' motion for class certification, but withheld judgement until a later date as to whether the Class Period could be expanded to March 20, 2000, from the initial Class Period claimed. A non-binding mediation is scheduled for March 7, 2002.

The Company is a party to a number of additional claims arising in the ordinary course of business relating to employment, intellectual property and other matters. Based on its review of the individual matters, the Company believes that such claims, individually, will not have a material adverse effect on its business, financial position or results of operations but, in the aggregate, may have a material adverse effect on its business, financial position or results of operations. Such possible effect cannot be reasonably estimated at this time.

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Item 4. Submission of Matters to a Vote of Security Holders

None.

PART II

Item 5. Market for the Registrant's Common Equity and Related Stockholder Matters

Price Range of Common Shares

The Company's Common Shares are traded on The Toronto Stock Exchange (TSE) under the symbol COR and in the over-the-counter market on the NASDAQ National Market under the symbol CORL. The following table sets forth the range of quarterly high and low closing sale prices of the Common Shares in CDN$ on the TSE and in US$ on the NASDAQ National Market within the two most recent fiscal years.

	FISCAL 2001		FISCAL 2000	
	High	Low	High	Low
The Toronto Stock Exchange	(Canadian dollars)			
First Quarter	$ 5.90	$ 2.32	$ 57.95	$ 19.70
Second Quarter	4.02	3.07	21.60	3.00
Third Quarter	5.98	3.50	7.70	4.30
Fourth Quarter	5.01	3.00	9.05	4.01
NASDAQ National Market	(US dollars)			
First Quarter	$ 3.88	$ 1.38	$ 39.25	$ 13.19
Second Quarter	2.65	2.00	15.88	3.03
Third Quarter	3.83	2.33	5.25	2.91
Fourth Quarter	3.20	1.87	6.06	2.59

As of February 15, 2002, there were 1,403 holders of record of Common Shares. A substantial number of Common Shares of the Company are held by depositories, brokerage firms and financial institutions in "street name." Based upon the number of annual reports and proxy statements requested by such nominees, the management of the Company determined that the number of beneficial holders of Common Shares approximates 105,000 holders.

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Limitations Affecting Security Holders

There is no law or government decree or regulation in Canada that restricts the export or import of capital, or affects the remittances of dividends, insurance or other payments to a non-resident holder of Common Shares.

Dividend Policy

The Company has neither declared nor paid cash dividends on its Common Shares since its inception and does not anticipate paying any dividends in the foreseeable future, but intends to retain future earnings for reinvestment to finance the growth of its business. Any future determination to pay dividends will be at the discretion of the Board of Directors. From time to time, the Company repurchases Common Shares for cancellation. There is no Company policy with regards to the timing or amount of Common Share repurchases and cancellation. There are no plans to repurchase and cancel common shares at this time.

Item 6. Selected Financial Data

The Statement of Operations data set forth below with respect to the years ended November 30, 2001, 2000 and 1999, and the balance sheet data as at November 30, 2001 and 2000, are derived from the audited financial statements of Corel, incorporated by reference in Item 8 hereof, and should be read in conjunction with those financial statements and the notes thereto. The balance sheet data as at November 30, 1999, 1998 and 1997 are derived from audited financial statements of Corel not included in this report. The Statement of Operations data set forth below with respect to the fiscal years ended November 30, 1998 and 1997 are derived from audited financial statements not included in this Annual Report on Form 10-K. All amounts are in United States dollars.

	Year ended November 30				
	2001	**2000**	**1999**	**1998**	**1997**
	(in thousands, except per share data)				
Canadian GAAP					
Revenue	$134,320	$157,487	$243,051	$246,827	$260,581
Income (loss) from continuing operations	(7,324)	(55,348)	16,716	(30,448)	(231,678)
Income (loss) from continuing					
operations per share (fully diluted)	(0.10)	(0.80)	0.27	(0.51)	(3.84)
Cash and short-term investments	103,000	127,430	18,021	24,506	30,629
Working capital	85,797	106,662	23,781	4,692	27,356
Total assets	235,699	218,587	139,716	124,596	144,561

| Novell obligations | 10,000 | 6,594 | 12,322 | 18,362 |
| Shareholders' equity | 171,623 | 162,644 | 64,366 | 28,583 | 59,809 |

		Year ended November 30			
	2001	**2000**	**1999**	**1998**	**1997**
	(in thousands, except per share data)				
US GAAP					
Revenue	$134,320	$157,487	$243,051	$246,827	$260,581
Income (loss) from continuing operations	(11,635)	(55,348)	16,716	(30,448)	(231,678)
Comprehensive income	(12,398)	(56,318)	18,780	(30,448)	(231,678)
Income (loss) from continuing					
operations per share (diluted)	(0.16)	(0.80)	0.27	(0.51)	(3.84)
Cash and short-term investments	103,000	127,430	18,021	24,506	30,629
Working capital	85,704	106,353	22,743	4,692	27,356
Total assets	230,174	219,990	142,818	124,596	144,561
Novell obligations		10,000	6,594	12,322	18,362
Shareholders' equity	167,643	163,738	66,430	28,583	59,809

See Item 8 - Financial Statements and Supplementary Data, and the Notes to the Company's Consolidated Financial Statements, Note 15 - Significant Differences Between Canadian and United States GAAP for an explanation of differences.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview

Corel develops, manufactures, licenses, sells and supports software that creates content. It has traditionally differentiated its products into two main types of product lines: Creative Products and Business Applications. As these technologies evolve and the market demands change, Corel is refocusing its business to products that create content across multiple delivery channels.

On January 23, 2001, Corel announced a three-phase corporate strategy designed to reposition the Company for long-term growth and

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profitability. The first phase consists of all disruptive variables i.e. development, appraisal, customer and aggressive Products lines. Fiscal 2001 proved this phase had been successfully implemented as evidenced by the significant cost reductions. The second phase of this strategy will focus on growth in current markets through strategic investments. The final phase will focus on long-term growth by generating new revenue in new market segments through acquisition or internal research and development.

In line with the first two phases of the January 23, 2001, strategy on October 29, 2001, Corel acquired Micrografx, Inc. (Micrografx). Micrografx developed enterprise process and graphics software, solutions and services. The technology acquired will aid in the development of new products that enable customers to create graphic-rich content that can be output easily and simultaneously to multiple channels, including the Web. Upon close, approximately 6.9 million common shares were issued to former Micrografx shareholders for a value of $16.0 million representing approximately 50% of the total consideration. The remaining consideration was in the form of 16,038,875 participation rights, which will convert one year after closing into $1.02 USD per participation right in cash or Corel common shares, contingent upon Corel's share price at that time. This acquisition also gives Corel access to a new market, Enterprise Process Management (EPM).

On July 17, 2001, Corel announced the release of the procreate product line, a new line of software developed for creative professionals--a key customer group identified in phase one of the corporate strategy.

On August 7, 2001, Corel and SoftQuad Software, Ltd. (SoftQuad) announced a definitive agreement whereby Corel will acquire SoftQuad in a stock-for-stock transaction. SoftQuad is a developer of XML-enabling technologies and commerce solutions for e-Business. Technologies acquired from this acquisition will assist in developing cross-media publishing solutions. The transaction is subject to approval of SoftQuad's shareholders at a meeting to be held on March 14, 2002.

Management is now focused on a three-point initiative: identifying key customer profiles, continuing to make strategic investments to capture new markets, and developing solutions for emerging markets in order to address the evolving needs of the Company's global customer base.

Forward-Looking Statements

The following information contains forward-looking statements, as defined by the United States Private Securities Litigation Reform Act of 1995, involving Corel's expectations about future financial results and other matters. These statements reflect management's current forecast of certain aspects of Corel's future business. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results of operations to differ materially from historical results or current expectations. The words "plan," "expect," "believe," "intend," "anticipate," "forecast," "target," "estimate" and similar expressions identify forward-looking statements. Risk factors include shifts in customer demand, product shipment schedules, product mix, competitive products and pricing, technological shifts and other variables. Readers are referred to Corel's most recent reports filed with the Securities and Exchange Commission for a more complete discussion of the other risks and uncertainties. The factors underlying forecasts are dynamic and subject to change. As a result, forecasts speak only as of the date they are given and do not necessarily reflect Corel's outlook at any other point in time. Corel does not undertake to update or review these forward-looking statements.

Results of Operations

Fiscal 2001 compared to fiscal 2000

Revenue

Management believes the 14.7% decrease in revenue to $134.3 million in fiscal 2001 is partially a result of focusing on profitability instead of revenue. As part of the corporate strategy, there has been a move away from the retail market and an emphasis on corporate sales. Certain non-profitable product lines were dropped during the year. WordPerfect was not localized in as many languages as it had been in the past. This resulted in a reduction in expenses which improved profitability while reducing revenue. Corel provides for estimated future returns, exchanges and price protection. The timing of establishment of the provision and actual usage may vary according to the respective product's life cycle and/or the amount of inventory in the distribution channel.

Revenue growth from new products resulting from merging technologies of the Company with recently acquired technology is not expected before the fourth quarter of fiscal 2002.

Revenue by product groups

Revenue of Creative Products remained relatively constant, showing a 2.6% decline from fiscal 2000. During the year, a number of new Creative Products were released: CorelDRAW ESSENTIALS, a software package for graphics users combining the functionality of CorelDRAW 9 and Corel PHOTO-PAINT 9, Corel GRAPHICS SUITE 10, a creative tool for the Mac environment, and the entire procreate line of products. These releases helped maintain revenue in a competitive market during an economic downturn. New products resulting from merging technologies of the Company with recently acquired technology are expected to result in increased revenues by the fourth quarter of 2002.

Business applications revenue declined 25.7% as a result of a change in focus for business applications. WordPerfect Office 2002 was released in the second quarter of 2001 and was not localized into as many languages as was done historically. This resulted in decreased revenues in many foreign jurisdictions. A decision to not reduce prices and a focus on profitable products resulted in a decline in revenues. However, expenses declined in greater proportion than the decline in revenues. The global economic downturn experienced in 2001 also negatively affected business application revenues.

Other product lines revenue declined 34.1% as Corel Linux OS was exclusively licensed for distribution to a third party in August 2001, resulting in obsolescence of the product line. Growth of other product revenue is expected in fiscal 2002 as Corel develops the newly acquired Enterprise Process Management product line.

Revenue by sales channels

Retail product revenue was down 2.8% from fiscal 2001 as a result of the general downturn in the economy. As Corel refocuses its direction and

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moves more t...

OEM revenue declined 34.9% from 2000 levels as a result of the change in Corel's focus and the general economic downturn. As Corel's product mix changes, product offerings for OEM become limited. OEM offers high volume, low cost products, a market Corel is moving away from with WordPerfect Office 2002 not being offered as an OEM product. With the downturn in the economy, OEM partners have looked to ways of cutting costs of products, resulting in a decrease in demand for products by OEMs.

Corporate licence revenue was down 24.7% as a result of corporations increasing the length of their upgrade cycles and thereby not upgrading their licences to the current version of WordPerfect. Also, increased competition in the legal and government market negatively affected corporate licensing sales.

As a result of Corel's growth strategy focusing on corporate customers, Corel expects to increase the number of direct sales made to corporate customers in fiscal 2002. New product lines will not be as heavily reliant on the retail channel as previous product lines. Consequently, Corel's channel mix is expected to shift from retail to corporate/direct sales in the coming year.

Revenue by region

The regional revenue mix did not change significantly in fiscal 2001 from fiscal 2000. North American revenue declined in proportion to the general decline in revenue as a result of the general decline in the economic environment.

Europe, Middle East and Africa (EMEA) revenue was down 16.8% as a result of Corel not localizing as many of its products as it had in the past. Revenue in EMEA is expected to increase in fiscal 2002 as a result of a significant increase in Corel's operating infrastructure in EMEA.

Revenue in the rest of the world was down 18.6% due primarily to Corel changing its product strategies and not offering WordPerfect Office 2002 to the OEM market. This decline also resulted from not localizing WordPerfect Office 2002 into as many languages as was done historically.

Cost of sales and gross profit

In cost of sales, Corel includes all costs associated with the acquisition of components, the assembly of finished products, product royalties, the amortization of software acquisition costs and shipping. Costs associated with warehousing are included in selling, general and administrative expenses. Deferred royalties and software, acquired for integration and sale with Corel products, that have been capitalized are currently being amortized over the greater of: a) the ratio that current gross revenues bear to the total of current and anticipated future gross revenues or, b) the straight line method over the remaining economic life generally estimated to be three to five years.

Gross profit as a percentage of revenue increased 10.6% as a result of improved inventory management and purchasing techniques. These process changes, such as building to requirements instead of building to sales forecast, resulted in fewer charges to cost of sales for obsolete products. The improved cost of sales can also be attributed to a significant reduction in the amount of inventory on hand as well as in the distribution channel.

With continued restructuring of the Company and the new corporate strategy, sales and marketing as a percentage of revenue expected to improve slightly in fiscal 2002.

Advertising expenses

Advertising expenses, which include all marketing, advertising and trade show expenses, decreased by 33.6% as a result of the cost reduction plan implemented in fiscal 2000. During fiscal 2001, Corel used a more focused marketing strategy, resulting in advertising dollars being spent in areas that would provide the best benefit for the cost. Corel also reduced the number of trade shows it attended which further reduced advertising expenses.

As Corel rebrands itself and its products, advertising expenses are expected to increase significantly in fiscal 2002.

Selling, general and administrative expenses

All selling expenses (except for advertising expenses) are included in this category along with general and administrative expenses, including expenses associated with warehousing inventory. Selling, general and administrative expenses declined $23.8 million (27.8%) as a result of the cost-cutting plan implemented in the first half of fiscal 2000. This decrease was partly offset by increases of approximately $4.0 million in consulting fees that resulted from development of the corporate strategy. Additional non-recurring charges of approximately $1.5 million that occurred from the restructuring of the Company further offset the reduction in selling, general and administration expenses.

Research and development expenses

Research costs are expensed as incurred. Development costs related to software products developed for sale are expensed as incurred unless they meet the criteria for deferral under generally accepted accounting principles. Research and development expenses are reported net of Canadian investment tax credits.

Research and development expenses declined $18.6 million (42.4%) as a result of the cost-cutting plan implemented in the first half of fiscal 2000. One of the major cost-cutting measures that resulted was that WordPerfect Office 2002 was not localized into as many languages as were earlier versions.

Depreciation and amortization expenses

Depreciation and amortization decreased $1.8 million (24.2%) as a result of the cost-cutting plan implemented in the first half of fiscal 2000. There was a decrease in capital asset additions of $11.7 million, excluding the acquisition of Micrografx capital assets.

Interest revenue/expense

Interest revenue consisted primarily of interest earned from the investing of the Company's funds (cash and cash equivalents, restricted cash and

short-term investments. Absolute current liabilities consisted of obligations related to Novell obligations for the acquisition of the WordPerfect technology from Novell, Inc. The obligation was repaid during fiscal 2001.

Income taxes

Corel operates in a number of different countries and consequently, its tax rates are affected by the profitability of its operations in those countries. In fiscal 2001, Corel recorded a tax expense of $4.0 million on a pretax loss of $2.8 million. The tax expense primarily related to withholding tax on income from foreign jurisdictions and income tax from prior year reassessments.

Fiscal 2000 compared to fiscal 1999

Revenue

Sales decreased 35% to $157.5 million in fiscal 2000 from $243.1 million in fiscal 1999. This decrease was due primarily to new versions of Corel's flagship products, WordPerfect and CorelDRAW, nearing the end of their life cycles in fiscal 2000. Sales were also negatively impacted in fiscal 2000 by lower product prices, which were implemented in an attempt to gain market share. Corel provides for estimated future returns, exchanges and price protection. The timing of establishment of the provision and actual usage may vary according to the respective product's life cycle and/or the amount of inventory in the distribution channel.

Revenue by product groups

Creative products revenues decreased 29% from $106.6 million in fiscal 1999 to $75.9 million in fiscal 2000. This decrease is primarily due to the release of CorelDRAW 10 Graphics Suite in the final month of the fiscal year. CorelDRAW 9 Graphics Suite was released in May 1999, resulting in the inclusion of approximately eight months of revenue in fiscal 1999 as opposed to one month of revenues of CorelDRAW 10 Graphics Suite in fiscal 2000. Creative products revenues were expected to increase approximately 20% in fiscal 2001 due primarily to increased demand for CorelDRAW 10 Graphics Suite, planned releases of updates to the products acquired from MetaCreations Corporation and the release of Corel GRAPHICS SUITE 10 for Macintosh. Included in creative products revenues for fiscal 1999 is $24.0 million of revenue relating to consumer applications products. In fiscal 2000, as Corel realigned itself and moved away from promoting these products, these revenues declined significantly and are no longer managed or accounted for as a separate segment.

Business application products revenues declined 41% from $132.9 million in fiscal 1999 to $78.9 million in fiscal 2000. This is due primarily to the lack of any major product launches in fiscal 2000.

Other revenues, related primarily to Corel LINUX OS, decreased 24% to $2.7 million in fiscal 2000 from $3.5 million in fiscal 1999 due to the Company's focus on its core products.

Revenue by sales channels

Corel distributes products through distributors. Sales from retail packaged products, OEM licences and corporate licences.

Retail packaged products and corporate licences are sold primarily through distributors. Sales from retail packaged products declined 43% from $140.2 million in fiscal 1999 to $80.1 million in fiscal 2000. The decline in retail packaged product sales was primarily due to the decline in PC sales and the aforementioned change in the buying practices of retail distributors. In addition, for much of fiscal 2000, the core products were available only in releases nearing the end of their life cycles.

OEM channel sales are licence fees from original equipment manufacturers. These sales decreased 35% from $27.0 million in fiscal 1999 to $17.6 million in fiscal 2000. The decrease was due primarily to declining PC sales and products reaching the end of their life cycles.

Corporate licences declined 21% from $75.9 million in fiscal 1999 to $59.8 million in fiscal 2000. This decrease was primarily due to not having released new versions of WordPerfect during the year.

Revenue by region

Sales in North America declined 38% from $155.8 million in fiscal 1999 to $96.5 million in fiscal 2000. This was primarily due to products reaching the end of their life cycles and the aforementioned change in distributors' buying patterns. A general decline in the retail market in North America also contributed to slower sales.

Declining sales in Germany, the Netherlands and the United Kingdom resulted in European revenues declining 34% from $64.1 million in fiscal 1999 to $42.5 million in fiscal 2000.

Corel's products are sold primarily in US dollars in all regions other than Europe. In fiscal 2000, Corel began selling in Euros for many of its European customers. The relative weakness of the Euro to the US dollar in fiscal 2000 impacted sales slightly.

Cost of sales and gross profit

In cost of sales, Corel includes all costs associated with the acquisition of components, the assembly of finished products, product royalties, the amortization of software acquisition costs and shipping. Costs associated with warehousing are included in selling, general and administrative expenses. Deferred royalties and software acquired for integration and sale with Corel products that have been capitalized are currently being amortized over the greater of: a) the ratio that current gross revenues bear to the total of current and anticipated future gross revenues or, b) the straight line method over the remaining economic life generally estimated to be three to five years.

As products reach the end of their life cycles or as decisions are made to no longer actively market products, inventory then held (consisting of

finished goods. Raw materials would then, with reasonable certainty, be in excess of estimated future use and those excess inventories would then be considered obsolete and would be written off. In fiscal 2000, the Company determined that $14.2 million of such inventory was obsolete and consequently written off. In addition, in the fourth quarter of 2000, the Company determined that $1.6 million of prepaid royalties had no future value as the associated products were no longer actively marketed, and as such the prepaid royalties were written off. This, combined with decreases in product prices, resulted in a decrease in gross margin from 76% in fiscal 1999 to 70% in fiscal 2000.

Advertising expenses

Advertising expenses include all marketing, advertising and trade show expenses. In fiscal 2000, advertising expenses decreased 31% from $48.0 million in fiscal 1999 to $33.3 million in fiscal 2000. This was due primarily to Corel's cost reduction plan that was implemented in May 2000.

Selling, general and administrative expenses

All selling expenses (except for advertising expenses) are included in this category along with general and administrative expenses, including expenses associated with warehousing inventory. Selling, general and administrative expenses increased 4% from $82.2 million in fiscal 1999 to $85.7 million in fiscal 2000. While a cost reduction plan was implemented during the year, the benefits were not realized until the fourth quarter. There were a number of non-recurring charges such as severance, consulting fees and asset write-downs that resulted from the cost reduction plan implemented during the year.

Research and development expenses

Research costs are expensed as incurred. Development costs related to software products developed for sale are expensed as incurred unless they meet the criteria for deferral under generally accepted accounting principles. Research and development expenses are reported net of Canadian investment tax credits.

In fiscal 2000, gross research and development expenses increased by $3.8 million (10%) to $43.9 million from $40.0 million primarily as a result of the cost reduction plan implemented in June 2000. Netted against gross research and development expenses were $0.5 million and $8.9 million of Canadian investment tax credits in fiscal 2000 and fiscal 1999, respectively. Fiscal 1999 includes investment tax credits of $8.9 million related to the 1997 through 1999 taxation years that were recognized for accounting purposes as a result of an audit by the Canada Customs and Revenue Agency being completed during the year.

Depreciation and amortization expenses

Depreciation and amortization expenses, which do not include the amortization of purchased software, increased $1.0 million in fiscal 2000 to $7.4 million from $6.4 million in fiscal 1999 as a result of significant purchases of computer equipment made in the fourth quarter of fiscal 1999 having a full year of amortization.

Interest expense

In fiscal 2000, interest on investments was offset against a $3.0 million accrual for interest charges relating to proposed reassessments of prior year tax returns and interest expense on Novell obligations for the acquisition of the WordPerfect technology from Novell, Inc. resulting in net interest

expense of $1.0 million, or 2.1% of revenue, in 1999.

Income taxes

Corel operates in a number of different countries and its tax rates are affected by the profitability of its business in those countries. In fiscal 2000, Corel recorded a tax expense of $4.7 million on a pretax loss of $47.8, primarily due to foreign tax rate differences associated with Corel's international operations and non-recognition of losses. In fiscal 1999, Corel booked a tax recovery of $3.9 million on pretax income of $13.2 million, primarily as a result of recognizing the benefit of previously unbooked losses carried forward.

Cost reduction plan

Cost reduction actions commenced in late April 2000 when Corel began to curtail discretionary spending, particularly in the area of direct marketing and travel. In early May 2000, Corel proceeded to identify broader areas of spending cuts, namely in the areas of future hiring, capital purchases and other discretionary purchases. In mid-May 2000, Corel began to consider employee terminations and commenced a formal process of planning for spending cuts that would reduce its quarterly expenses to a level commensurate with expected achievable revenues. Consideration was also given to the amount of spending that had occurred in the first quarter and spending estimates for the second quarter, with a normalization factor for what was considered non-recurring. In summary, this called for a quarterly cost structure of $45.0 million or a $10.0 million quarterly reduction from normalized spending rates.

On May 16, 2000, Corel announced that it had undertaken a cost reduction plan with the intention of eliminating $40.0 million in costs on an annualized basis. The cost reduction plan has been implemented in a series of steps.

On June 8, 2000, Corel announced a reduction in its workforce of approximately 320 positions from a combination of employee terminations, termination of contract positions, elimination of vacant positions, attrition and termination of the services of independent contractors. The costs of severance and other termination payments, estimated at $1.6 million, were recorded in Corel's third fiscal quarter ended August 31, 2000. The estimated annualized cost saving from the workforce reduction, without taking into account one-time implementation charges, is expected to be approximately $11.0 million.

On September 6, 2000, Corel announced that it had identified the remaining components of the previously targeted $40.0 million in expenditure cuts, designed to realign its costs with its expected achievable revenues. As part of this plan, Corel announced the proposed consolidation of its engineering operations based in Dublin, Ireland, to its corporate headquarters in Ottawa, Canada. A total of 139 positions at the Dublin facility were eliminated as a result of the move with the estimated costs of severance and other termination payments, being approximately $0.85 million recorded in the third quarter of fiscal 2000 and approximately $1.4 million in additional costs recorded in the fourth quarter of fiscal 2000.

Liquidity and capital resources

As of November 30, 2001, Corel's principal sources of liquidity included cash and cash equivalents, and short-term investments of $103.0 million ($127.4 million in 2000), and trade accounts receivable of $18.7 million ($28.6 million in 2000). Included in cash, cash equivalents, and short-term

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investments as at November 30, 2001 and November 30, 2000 were comprised of short-term investments of $15.3 million and $1.0 million respectively. At November 30, 2001, $19.4 million of cash was restricted in use as it was held as security against certain corporate financial obligations, including $16.3 million held in trust as a requirement of the participation rights issued in the acquisition of Micrografx.

Cash provided by operations was $15.1 million for fiscal 2001 compared to cash used in operations of $30.0 million for fiscal 2000. The increase of $45.1 million was primarily due to the Company's significant expense reductions in fiscal 2001, which reduced the loss for the year from $55.3 million in 2000 to $7.3 million in 2001.

Trade accounts receivable, net of provisions, decreased from the November 30, 2000 balance of $28.6 million to $18.7 million. The reduction was partly a result of the decrease in sales volume from 2000 to 2001. The balance of the reduction resulted from improved collection of receivables.

Accounts payable and accrued liabilities were $27.9 million at November 30, 2001 compared to $28.4 million at November 30, 2000. Ongoing reductions in accounts payable and accrued liabilities from Corel's cost reduction initiatives throughout fiscal 2001 were offset at the end of the year by Corel's assumption of liabilities in the acquisition of Micrografx, Inc.

Financing activities used $9.7 million in 2001 compared to providing $146.4 million in fiscal 2000. The main reason for the difference between 2001 and 2000 was the proceeds from various share and warrant issuances in fiscal 2000. During 2000, the issuance of common shares and common share purchase warrants resulted in net proceeds of $22.3 million, compared to $0.3 million in fiscal 2001. In addition, in fiscal 2000, the issuance of preferred shares to Microsoft Corporation provided $130.7 million to the Company. The significant use of cash in 2001 was $10.0 million, used to repay the Novell debt ($6.6 million in 2000). Repayment of Novell obligations was based on an agreement reached by Corel with Novell in fiscal 2000 whereby the balance due was fixed and was repaid in three equal payments of $5.0 million.

Investing activities used $107.9 million in fiscal 2001 compared to $7.0 million in fiscal 2000. In fiscal 2000, the primary source of cash from investing activities was proceeds from sales of shares of GraphOn Corporation ("GraphOn") of $14.6 million. The most significant uses of cash in fiscal 2001 was Corel's investment of $78.1 million in short-term investments and $16.3 million of funds placed in trust to satisfy the requirements of the participation rights issued as part of the acquisition of Micrografx. Corel's investment in capital assets decreased from $19.5 million in fiscal 2000 to $7.8 million in fiscal 2001 reflecting Corel's cost reduction initiatives.

On September 19, 2000, the Company announced it had entered into a share purchase agreement with an institutional investor. Subject to the terms and conditions of this agreement, the Company may issue and sell to the investor up to 14,690,000 shares in periodic draw-down periods over 24 months, if all associated warrants are exercised. The Company had not issued any shares under this agreement as of November 30, 2001.

At November 30, 2001, Corel's capital resource commitments consisted primarily of lease arrangements for office space. As part of the terms of the Micrografx acquisition, $16.3 million has been escrowed until October 2002 to meet potential obligations associated with the participation rights. No significant commitments exist for future capital expenditures. Corel believes available balances of cash and cash equivalents and short-term investments are sufficient to meet its working capital requirements for the foreseeable future.

New accounting pronouncements

In fiscal 1998, the FASB issued SFAS No.133, "Accounting for Derivative Instruments and Hedging Activities" ("SFAS 133") which establishes standards for derivative instruments and hedging activities. It requires that all derivatives be recognized as either assets or liabilities on the Balance Sheet and be measured at fair value. SFAS 133 is effective for fiscal years beginning after June 15, 1999, which is the fiscal year beginning December 1, 1999 for the Company. Prior periods should not be restated. In June 1999, the FASB issued SFAS No. 137, which delays the effective date of SFAS 133 until fiscal years beginning after June 15, 2000, which was the fiscal year beginning December 1, 2000 for the Company. The adoption of this pronouncement has not had an impact on its results of operations or financial position.

During the year, the Canadian Institute of Chartered Accountants ("CICA") issued CICA 1581- "Business Combinations" ("CICA 1581") and FASB issued SFAS No. 141, "Business Combinations" ("SFAS 141"). These standards are effective for all business combinations initiated after June 30, 2001, and require that the purchase method of accounting be used for all business combinations initiated after that date. Corel applied CICA 1581 and SFAS 141 to the Micrografx acquisition and will apply these pronouncements to future acquisitions.

During the year, the CICA issued CICA 3062 - "Goodwill and Other Intangible Assets" ("CICA 3062") and FASB issued SFAS No. 142, "Goodwill and Other Intangible Assets" ("SFAS 142"). These standards are effective for fiscal years beginning after December 15, 2001, which is the fiscal year beginning December 1, 2002 for the Company, but applied immediately to any business combinations consummated after June 30, 2001. CICA 3062 and SFAS 142 require that goodwill and intangible assets deemed to have indefinite lives will no longer be amortized, including goodwill recorded in past business combinations, but will be subject to annual impairment tests in accordance with the new guidelines. Other tangible assets will continue to be amortized over their useful lives. The Company believes that the adoption of these pronouncements will have a material effect on its results of operations and financial position.

In August 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets" ("SFAS 144"). This Statement addresses financial accounting and reporting for the impairment or disposal of long-lived assets. The provisions of this Statement are effective for financial statements issued for fiscal years beginning after December 15, 2001, which is the fiscal year beginning December 1, 2002 for the Company. The Company has not assessed the impact that the adoption of this standard will have on its results of operations or financial position.

In December 2001, the CICA issued AcG 13 - "Hedging Relationships" ("AcG 13"). The guideline presents the views of the Canadian Accounting Standards Board on the identification, designation, documentation and effectiveness of hedging relationships, for the purpose of applying hedge accounting. The guideline is effective for all fiscal years beginning on or after January 1, 2002, which is the fiscal year beginning December 1, 2002 for the Company. The Company does not believe that the adoption of this guideline will have a material impact on its results of operations or financial position, as it does not apply hedge accounting.

In January 2002, the CICA amended CICA 1650 - "Foreign Currency Translation" ("CICA 1650"). The amended standard eliminates the requirement to defer and amortize exchange gains and losses related to a foreign currency denominated monetary items with a fixed or ascertainable life extending beyond the end of the following fiscal year and require new disclosure surrounding foreign exchange gains and losses. The standard is effective for all fiscal years beginning on or after January 1, 2002, which is the fiscal year beginning December 1, 2002 for the Company. The Company has not assessed the impact that the adoption of this standard will have on its results of operations or financial position.

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In January 2002, the CICA issued CICA 3870 - "Stock-Based Compensation and Other Stock-Based Payments" ("CICA 3870"). This section establishes standards for the recognition, measurement and disclosure of stock-based compensation and other stock-based payments made in exchange for goods and services. This section sets out a fair value based method of accounting and is required for certain, but not all, stock-based transactions. The recommendations of this section should be adopted for fiscal years beginning on or after January 1, 2002, which is the fiscal year beginning December 1, 2002 for the Company, and applied to awards granted on or after the date of adoption. The Company has not assessed the impact that the adoption of this standard will have on its results of operations or financial position.

Item 7A. Quantitative And Qualitative Disclosures About Market Risk

Interest rate risk

Corel's exposure to market risk for changes in interest rates relates primarily to its investment portfolio of cash equivalents and short-term investments. The primary objective of the Company with respect to investments is security of principal. Investment criteria include selecting securities having an acceptable credit rating and diversifying both issuers and terms to maturity, which in no case exceed one year. Short-term investments include only those securities with active secondary or resale markets to ensure portfolio liquidity. Sustained low general interest rates, particularly in the United States, could significantly reduce Corel's interest income. Corel does not use derivative financial instruments in its investment portfolio.

At November 30, 2001, interest rates on the Company's investments ranged from 1.98% to 3.97% per annum (average rate approximately 3.4% per annum) with all investments maturing by the end of June 2002. The Company's cash, cash equivalents and short-term investments are denominated predominately in US dollars.

Foreign currency risk

Corel conducts business worldwide. Revenues and expenses are generated primarily in US dollars, but the Company does operate in foreign currencies, primarily in Canada and Europe and, to a lesser extent, in Australia, Latin America, Japan and other Asian countries. As the Company's business expands, its exposure to foreign currency risk will increase. Corel continues to monitor its foreign currency exposure to minimize the impact on its business operations. Corel has mitigated, and expects to continue to mitigate, a portion of its currency exposure through decentralized sales, marketing and support operations in which most costs are local currency based. As of November 30, 2001, Corel had no foreign currency hedges outstanding.

Item 8. Financial Statements and Supplementary Data

Corel Corporation

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Management's Report

Management is responsible for the preparation of the Company's consolidated financial statements. Management believes that the consolidated financial statements fairly reflect the form and substance of transactions and that the consolidated financial statements reasonably present the Company's financial condition and results of operations. The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in Canada ("Canadian GAAP"). These principles are also generally accepted in the United States ("US GAAP") in all material respects except as disclosed in Note 15. Management has included in the Company's consolidated financial statements amounts based on estimates and judgements that it believes are reasonable under the circumstances.

PricewaterhouseCoopers LLP, the independent auditors of the Company, have audited the Company's consolidated financial statements in accordance with generally accepted auditing standards, and they provide an objective, independent review of the fairness of reported operating results and financial position.

The Board of Directors of the Company has an Audit Committee which meets with financial management and the independent auditors to review accounting, auditing, internal accounting controls, and financial reporting matters.

Derek J. Burney	John Blaine
President and CEO	*Executive Vice President, Finance*

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Auditors' Report to the Shareholders

We have audited the consolidated balance sheets of Corel Corporation as at November 30, 2001 and November 30, 2000 and the related consolidated statements of operations, shareholders' equity and cash flows for the years ended November 30, 2001, 2000 and 1999. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards in both Canada and the United States. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these consolidated financial statements present fairly, in all material respects, the financial position of the Company as at November 30, 2001 and November 30, 2000, and the results of its operations and its cash flows for the years ended November 30, 2001, 2000 and 1999 in accordance with generally accepted accounting principles in Canada.

PricewaterhouseCoopers LLP	Ottawa, Canada
Chartered Accountants	January 25, 2002,
	except for Note 13.B dated as of
	February 6, 2002

Consolidated Balance Sheets

(in thousands of US$)

| | As at November 30 | |
	2001	2000
Assets		
Current assets:		
Cash and Cash equivalents	$ 24,924	$ 127,430
Restricted cash	19,367	1,136
Short-term investments	78,076	
Accounts receivable		

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Trade	18,689	28,620
Other	1,272	773
Inventory	799	3,117
Future tax asset		479
Prepaid expenses	1,779	1,050
Total current assets	144,906	162,605
Investments	9,886	11,996
Future tax asset		965
Deferred financing charges	250	550
Capital assets	43,123	42,471
Goodwill	37,534	
Total assets	$ 235,699	$ 218,587
Liabilities and shareholders' equity		
Current liabilities:		
Accounts payable and accrued liabilities	$ 27,862	$ 28,441
Participation rights obligation	16,338	
Current portion of Novell obligations		10,000
Income taxes payable	4,749	6,595
Deferred revenue	10,160	10,907
Total current liabilities	59,109	55,943
Future income tax liabilities	4,967	
Total Liabilities	$ 64,076	$ 55,943
Commitments and contingencies		
Shareholders' equity		
Share capital		
Preferred shares: Series A (2001 - 24,000; 2000 - 24,000)		
Common shares (2001 - 80709; 2000 - 73,641)	$ 388,193	$ 371,890
Contributed surplus	4,990	4,990
Deficit	(221,560)	(214,236)
Total shareholders' equity	171,623	162,644
Total liabilities and shareholders' equity	$ 235,699	$ 218,587

(See accompanying Notes to Consolidated Financial Statements.)

On behalf of the Board

James Baillie	Jean-Louis Malouin
Director	*Director*

Consolidated Statements of Operations

(in thousands of US$, except share and per share data)

	For the year ended November 30,		
	2001	2000	1999
Revenue	134,320	157,487	243,051
Cost of sales	25,927	47,025	59,516
Gross Profit	108,393	110,462	183,535
Expenses:			
Advertising	22,091	33,258	47,964
Selling, general and administrative	61,828	85,662	82,229
Research and development	25,251	43,867	40,049
Depreciation and amortization	5,577	7,354	6,443
Settlement proceeds	(409)		(6,342)
Loss (gain) on foreign exchange	(71)	1,371	(246)
	114,267	171,512	170,097
Income (loss) from operations	(5,874)	(61,050)	13,438
Gain (loss) on investments	(2,359)	14,585	
Interest revenue (expense)	5,420	(1,305)	(190)
Income (loss) before the undernoted	(2,813)	(47,770)	13,248
Less:			
Income tax expense (recovery)	4,039	4,705	(3,946)
Share of loss of equity investments	472	2,873	478
Net Income (loss)	(7,324)	(55,348)	16,716
Income (loss) per share			
Basic	$ (0.10)	$ (0.80)	$ 0.27
Diluted	$ (0.10)	$ (0.80)	$ 0.27
Weighted average number of common shares outstanding (000's)			
Basic	74,325	69,498	62,194
Diluted	74,325	69,498	63,042

(See accompanying Notes to Consolidated Financial Statements.)

Consolidated Statements of Shareholders' Equity

(in thousands of US$ except share data)

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	Number of shares (000s)			Contributed		Total shareholders'
	Common	Preferred	Share capital	surplus	Deficit	equity
Balance at November 30, 1998	59,478		$203,088	$1,099	$(175,604)	$28,583
Issuance of common shares pursuant to stock options	5,054		12,767			12,767
Issuance of common shares for acquisitions	1,000		6,300			6,300
Net income					16,716	16,716
Balance at November 30, 1999	65,532		222,155	1,099	(158,888)	64,366
Issuance of common shares pursuant to stock options	798		3,390			3,390
Issuance of common shares and warrants for cash	7,299		15,630	3,291		18,921
Issuance of common shares pursuant to warrants	12		36			36
Issuance of preferred shares for cash		24,000	130,679			130,679
Issuance of warrants for services				600		600
Net loss					(55,348)	(55,348)
Balance at November 30, 2000	73,641	24,000	371,890	4,990	(214,236)	162,644
Issuance of common shares pursuant to stock options	174		265			265
Issuance of common shares for acquisition	6,894		16,038			16,038
Net loss					(7,324)	(7,324)
Balance at November 30, 2001	80,709	24,000	$388,193	$4,990	$(221,560)	$171,623

(See accompanying Notes to Consolidated Financial Statements.)

Consolidated Statements of Cash Flows

(in thousands of US$)

	Year Ended November 30		
	2001	2000	1999
Operating activities:			
Net income (loss)	$ (7,324)	$ (55,348)	$ 16,716
Items which do not involve cash or cash equivalents:			
Depreciation and amortization	16,347	17,904	15,539
Bad Debt expense	3,197	2,357	31
Write down of assets		984	
Future income taxes	1,444	198	853
Loss (gain) on investments	2,359	(14,585)	
Gain on disposal of assets	(306)		(809)
Share of loss of equity investments	472	2,873	478
Changes in operating assets and liabilities:			
Restricted cash	(1,893)	(1,136)	
Accounts receivable	10,277	26,974	(12,157)
Inventory	2,836	10,450	3,150
Income taxes recoverable		5,135	(5,135)
Prepaid expenses	430	992	2,576
Accounts payable and accrued liabilities	(9,897)	(25,843)	(7,925)
Income taxes payable	(2,051)	6,595	(7,549)
Deferred revenue	(747)	(7,565)	539
Net cash provided by (used in) operating activities	15,144	(30,015)	6,307
Financing activities:			
Issuance of common shares	265	19,056	12,767
Issuance of preferred shares		130,679	
Issuance of warrants		3,291	
Reduction of Novell obligations	(10,000)	(6,594)	(5,728)
Net cash provided by (used in) financing activities	(9,735)	146,432	7,039
Investing activities:			

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Proceeds on sale of investments			2,922
Purchase of investments	(909)	(2,356)	(1,561)
Purchase of short-term investments	(78,076)		
Purchase of capital assets	(7,817)	(19,511)	(19,198)
Cash restricted for participation rights obligation	(16,338)		
Proceeds on disposal of assets	818	274	119
Acquisition of Micrografx, Inc.	(5,593)		
Net cash used in investing activities	(107,915)	(7,008)	(17,718)
Increase (decrease) in cash and cash equivalents	(102,506)	109,409	(4,372)
Cash and cash equivalents at beginning of year	127,430	18,021	22,393
Cash and cash equivalents at end of year	$ 24,924	$ 127,430	$ 18,021
Supplemental non-cash information:			
Purchase of Micrografx, Inc.	$ 32,376		
Investment in Hemera Technologies, Inc.		$ 9,727	
Purchase of MetaCreations assets		$ 4,000	
Purchase of Rebel.com			$ 3,351

(See accompanying Notes to Consolidated Financial Statements.)

Notes to Consolidated Financial Statements

1. Summary of Significant Accounting Policies

All dollar amounts included herein are expressed in thousands of US$ unless otherwise noted. Certain per share information is expressed in units of US$ unless otherwise noted.

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in Canada ("Canadian GAAP"). These principles are also generally accepted in the United States ("US GAAP") in all material respects except as disclosed in Note 15.

Nature of operations

Corel develops, manufactures, licenses, sells and supports a wide range of software solutions for home and small business users, creative professionals and enterprise customers. Corel products are available for users of most PCs, including International Business Machines ("IBM") Corporation and IBM-compatible PCs, Apple Computer, Inc.'s Macintosh ("Mac") and Linux systems.

Basis of consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All material intercompany transactions and balances have been eliminated. The Company follows the equity method of accounting for investments in other companies where it holds 20% or more of the outstanding voting shares and has the ability to exert significant influence. Under the equity method, the Company records its initial investment at cost and records its pro rata share of earnings or losses of equity investments in its results of operations. Certain amounts for periods ended November 30, 2000 and prior have been reclassified to conform to the current year presentation.

Estimates and assumptions

Preparing financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and the disclosure of contingent assets and liabilities. Examples include the provisions for sales returns and bad debts, the length of product cycles and related capital asset lives. Actual results may differ from these estimates.

Software revenue recognition

The Company recognizes revenue from packaged software and licence fees when the software is delivered, there is persuasive evidence that an arrangement exists, the fee is fixed and determinable and collection is probable. Sales to distributors are subject to agreements allowing various rights of return and price protection. The Company establishes provisions for estimated future returns, exchanges and price protection. Where telephone support is included for a limited time (post contract support or "PCS", generally for 90 days) together with the licence fee, the entire licence fee is recognized upon delivery of the product and the insignificant costs to provide the support are accrued. Where support is provided together with an annual licensing fee, the entire fee is deferred and recognized ratably over the term of the licence agreement since the Company does not have vendor specific objective evidence of fair market value of this PCS. Revenue from professional services and other services are recognized as the services are delivered.

Research and development costs

Research costs are expensed as incurred. Development costs related to software products developed for sale are expensed as incurred unless they meet the criteria for deferral under generally accepted accounting principles.

Cash and cash equivalents

Cash includes cash equivalents, which are investments that are highly liquid and have terms to maturity of three months or less at the time of acquisition.

Cash equivalents typically consist of commercial paper, term deposits and banker's acceptances issued by major North American banks, and corporate debt. Cash and cash equivalents are carried at cost, which approximates their fair value.

Short-term investments

Short-term investments are investments that are generally held to maturity and have terms greater than three months at the time of acquisition. Short-term investments typically consist of commercial paper, Government of Canada Treasury Bills, and banker's acceptances. Short-term investments are carried at cost plus accrued interest, which approximates their fair value.

Restricted cash

The Company maintains restricted cash in investments with major financial institutions as security against certain corporate financial obligations.

Inventory

Inventory of product components is valued at the lower of average cost and replacement cost, and finished goods are valued at the lower of average cost and net realizable value.

Capital assets

Capital assets are recorded at cost. Amortization of licences commences with the market release of each new software product and version. Depreciation and amortization are calculated using the following rates and bases:

Furniture and equipment	20 - 33.3% declining balance
Computer equipment	33.3% straight line
Research and development equipment	20 - 50% declining balance
Leasehold improvements	Straight line over the term of the lease
Licences, purchased software, deferred royalties	The greater of: a) the ratio that current gross revenues bear to the total of current gross revenues and anticipated future gross revenues or, b) the straight line method over the remaining economic life, generally estimated to be three to five years

The Company regularly reviews the carrying value of its capital assets. If the carrying value of its capital assets exceeds the amount recoverable, a write-down is charged to the consolidated statement of operations.

Goodwill

Goodwill represents the excess of the purchase price of acquired companies over the estimated fair value of the tangible and intangible net assets acquired. Goodwill is not amortized. The Company evaluates the expected future net cash flows of the acquired businesses periodically, and adjusts goodwill for any impairment.

Income taxes

The Company accounts for income taxes under the asset and liability method. Under this method, future tax assets and liabilities are recognized for

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the estimated tax values of the assets and liabilities, as well as loss carry-forwards and other tax liabilities are settled at other than their net carrying amounts. Future tax assets and liabilities are measured using substantially enacted tax rates expected to apply to taxable income in the years in which temporary differences are expected to be recovered or settled. Changes to these balances are recognized in income in the period in which they occur.

Foreign currency

The functional currency of the Company and its subsidiaries, which are accounted for as integrated foreign operations, is the US dollar. Monetary assets and liabilities denominated in foreign currencies, other than the functional currency, are remeasured at the closing period-end rates of exchange. The gains or losses resulting from the remeasurement of these amounts have been reflected in earnings in the respective periods. Non-monetary items and any related amortization of such items are measured at the rates of exchange in effect when the assets were acquired or obligations incurred. All other income and expense items have been remeasured at the average rates prevailing during the respective periods.

Investment tax credits

Investments tax credits, which are earned as a result of qualifying research and development expenditures, are recognized and applied to reduce research and development expense in the year in which the expenditures are made and their realization is reasonably assured.

Stock options

The Company has stock option plans as described in Note 9. No compensation expense is recognized when shares or stock options are issued to employees. Any consideration paid by employees on the exercise of stock options is credited to share capital.

2. Inventory

	As at November 30	
	2001	2000
Product components	$ 359.00	$ 1,424.00
Finished Goods	440.00	1,693.00
	$ 799.00	$ 3,117.00

3. Investments

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	As at November 30	
	2001	**2000**
Equity investments		
Hemera Technologies, Inc.	$9,294	$9,727
LinuxForce, Inc.	204	243
Rebel.com, Inc.		
Alchemy Software Development Limited		
	9,498	9,970
Investments recorded at cost, including GraphOn Corporation	388	2,026
	$9,886	$11,996

Hemera Technologies, Inc.

On July 17, 2000, the Company purchased a 23% interest in Hemera Technologies, Inc. ("Hemera"), a privately held company. As consideration for these shares, the Company transferred its GraphicCorp division and related assets to Hemera. As of the effective date of the transaction, the fair value of the GraphicCorp division and its related assets was estimated at $9.7 million and the shares were valued at this amount. No gain or loss was recognized on the transfer. During fiscal 2001, Hemera received additional financing which resulted in the Company's interest in Hemera being diluted to 21%. The Company's share of Hemera's operating results was nominal in fiscal 2001 and 2000.

LinuxForce, Inc.

In December 1999, the Company purchased and currently maintains, a 33% interest in LinuxForce, Inc., a privately held company, for cash. The Company also holds a three-year option to purchase another 33% of LinuxForce, Inc. The Company's share of LinuxForce, Inc.'s operating results was nominal in fiscal 2000 and 2001.

Rebel.com, Inc.

In fiscal 2000, the Company's share of Rebel.com, Inc.'s net loss was $1.2 million, which was deducted from the carrying value of the investment, which reduced the investment in Rebel.com, Inc. to nil. Due to the magnitude of the losses, the remaining goodwill on the investment was written down to nil in fiscal 2000. On July 12, 2001, KPMG Inc. was named court-appointed receiver and manager of Rebel.com, Inc. and was subsequently appointed as trustee in bankruptcy of Rebel.com, Inc. on November 5, 2001. The receiver is liquidating the assets of Rebel.com, Inc. The Company does not expect to receive any amount from the liquidation.

Alchemy Software Development Limited

On November 28, 2000, the Company purchased and currently maintains, a 25% interest in Alchemy Software Development Limited, a privately held company. At the same time, the Company sold its Corel CATALYST software and related assets to Alchemy Software Development Limited. The transaction was accounted for as a non-monetary transaction and the net book value of the assets sold was nil, resulting in the shares being fair valued at nil with no gain or loss recognized. The Company's share of Alchemy Software Development Limited's operating results was nominal in fiscal 2001 and 2000.

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Investments recorded at cost

On December 31, 1998, the Company sold its jBridge technology to GraphOn Corporation (GraphOn). In consideration for the transfer of technology, GraphOn issued to the Company 3,886,503 shares of common stock of GraphOn and a warrant to purchase up to 388,650 shares of additional common stock. The assets transferred had a nominal value in the Company's financial statements.

On July 12, 1999, GraphOn completed a merger with Unity First Acquisition Corp. ("Unity"), a publicly traded acquisition corporation. As part of the merger, Unity changed its name to GraphOn. Under the terms of the merger agreement, GraphOn shareholders received a fixed exchange ratio of 0.5576 share of Unity common stock for each share of GraphOn common stock. As result of the merger, the Company held 2,167,114 shares of common stock, representing 19.5% of the merged company and, during the year, exercised warrants to purchase 216,711 shares of common stock at an exercise price of $1.79 per share.

During fiscal 2000, the Company sold a total of 1,190,001 shares of GraphOn for a realized gain of approximately $14.6 million. The Company still owns 1,193,824 shares of common stock (including warrants exercised above) recorded at $0.4 million, representing 8.1% of total shares outstanding which, as of November 30, 2001, had a market value of $0.68 per share for an aggregate fair value of $0.8 million. The Company has accounted for the cost of this investment under the first-in, first-out method.

Other investments recorded at lesser of cost or net realizable value, totaled nil and $1.6 million at November 30, 2001 and 2000, respectively. During 2001, the Company acquired additional cost investments. The total write-down to net realizable value during 2001 resulted in a $2.4 million charge to income.

4. Capital Assets

	November 30, 2001		November 30, 2000	
	Cost	Accumulated Amortization	Cost	Accumulated amortization
Furniture and equipment	$ 13,267	$ 10,431	$ 14,463	$ 10,877
Computer equipment	86,275	78,830	74,462	65,866
Research and development equipment	12,389	10,523	12,400	9,947
Leasehold improvements	2,888	2,608	3,707	3,426
Licenses, purchased software, deferred royalties	54,815	24,119	94,926	67,371
	169,634	$ 126,511	199,958	$ 157,487
Less: Accumulated amortization	126,511		157,487	
Net book value	$ 43,123		$ 42,471	

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5. Accounts Payable and Accrued Liabilities

| | As at November 30 | |
	2001	2000
Trade accounts payable	$ 18,416	$ 11,518
Accrued payroll	4,900	4,005
Accrued liabilities	2,543	5,918
MetaCreations payable		4,000
Microsoft accrual	2,003	3,000
	$ 27,862	$ 28,441

Microsoft accrual

On October 2, 2000, concurrent with the issuance of Series A preferred shares, the Company entered into a technology support and settlement agreement with Microsoft Corporation ("Microsoft"). Together with the purchase of such Series A preferred shares, Microsoft received the option to request the Company to perform certain product development work. The Company is obligated to provide at least 30 full time equivalents (20 developers and 10 testers) for a 12-month period to Microsoft upon receipt of Microsoft's written intent to exercise the option. On May 17, 2001, the Company received written notice from Microsoft of its exercise of the option. The Company estimated the costs to perform the services described as being $3.0 million based on the estimated average cost per developer and tester required to perform the services when required. If the actual costs to perform the required services is less than $3.0 million, the remainder of the liability will be recorded as an increase in contributed surplus. As of November 30, 2001, the Company had applied approximately $1.0 million in costs against this obligation.

6. Novell Obligations

The Novell obligations comprised royalty and product return obligations pursuant to the March 1, 1996 acquisition of the WordPerfect family of software programs and related technologies from Novell, Inc. ("Novell").

The Company was obligated at the date of acquisition, to pay royalties at a rate of 2% of its net revenues to Novell to a maximum of a then present value of $30.0 million, imputing a 10% discount rate. The Company has recorded payments on this obligation as royalty expense included in cost of sales.

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On October 30, 2000, the Company paid the remaining minimum product royalty obligation referred to above in three equal payments of $5.0 million made on October 31, 2000, January 24, 2001 and April 23, 2001. This $15.0 million represents a prepayment of otherwise future payable royalties and the Company has deferred this amount accordingly. These deferred royalties are being amortized to cost of sales over either three years, being the estimated remaining useful life of the underlying products, or at 2% of net revenues, whichever is greater.

7. Commitments and Contingencies

The Company rents office premises, sponsors various sporting events and venues, and is obligated to pay minimum product royalties under long-term agreements. Rent expense pursuant to lease obligations aggregated $5,313, $7,654 and $7,169 during the years ended November 30, 2001, 2000 and 1999, respectively. At November 30, 2001, the minimum commitments under long-term agreements, are as follows:

2002	$ 4,898
2003	4,235
2004	4,220
2005	4,042
2006	3,499
2007 and thereafter	38,530
	$ 59,424

The Company is party to a number of claims arising in the ordinary course of business relating to employment, intellectual property and other matters. Based on its review of the individual matters, the Company believes that such claims, individually, will not have a material adverse effect on its business, financial position or results of operations but, in the aggregate, may have a material adverse effect on its business, financial position or results of operations. Such possible effect cannot be reasonably estimated at this time.

8. Financial Instruments

Concentration of credit risk

The primary objective of the Company with respect to short-term investments is security of principal. The Company manages its investment credit risk through a combination of the (i) selection of securities with an acceptable credit rating; (ii) selection of term to maturity, which in no event exceeds one year in length; and (iii) diversification of debt issuers.

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Included in cash, cash equivalents and short-term investments as of November 30, 2001 and November 30, 2000 were corporate debt amounts of $15.0 million and $110.0 million, respectively. These amounts were repaid, in full, at maturity in January 2002 and December 2001, respectively. All of the Company's short-term investments as at November 30, 2001 had maturity dates of less than two months from year end. The Company's cash, cash equivalents and short-term investments are denominated predominantly in US dollars.

Included in the restricted cash balance as at November 30, 2001 is $16.3 million invested with a major US financial institution. This investment relates to the participation rights obligation arising from the acquisition of Micrografx, Inc. (see Note 13).

Concentration of credit risk, with respect to accounts receivable, is limited due to the diversity of the Company's channel arrangements. The Company has credit evaluation, approval and monitoring processes intended to mitigate potential credit risks. Ingram Micro Inc. accounted for $13.0 million (67.8%) and $10.4 million (36.5%) of accounts receivable at November 30, 2001 and November 30, 2000, respectively.

Fair value of financial instruments

The carrying amounts for cash and cash equivalents, restricted cash, short-term investments, accounts receivable, accounts payable, accrued liabilities and the participation rights obligation approximate fair value due to the short maturity of these instruments, unless otherwise noted.

9. Share Capital

Common shares

There are an unlimited number of common shares authorized. On June 28, 2000, the Company issued 7,299,270 common shares and 3,649,635 common share purchase warrants at CDN $4.11 per unit for total gross proceeds of CDN $30.0 million. The values assigned to each of the components of the unit were based on their relative fair values at the date of the transaction. The warrants were exercisable until June 27, 2001 at a price of CDN $4.56. During fiscal 2000, 11,659 warrants were exercised for gross proceeds of CDN$53,165. The remaining warrants expired June 27, 2001.

On October 30, 2001, the Company completed the acquisition of Micrografx, Inc. ("Micrografx"). The aggregate purchase price paid was approximately $33.8 million consisting of 6,894,250 common shares valued at $16.0 million and participation rights valued at $16.3 million (see Note 13).

Series A preferred shares

There are an unlimited number of Series A preferred shares authorized. On October 2, 2000, the Company issued 24,000,000 Series A participating, convertible, non-voting, non-redeemable preferred shares to Microsoft for total gross proceeds of $135.0 million ($5.625 per share). Series A preferred shares are convertible into one common share but not in the hands of Microsoft or its affiliates. As part of the share purchase agreement on October 2, 2001, the Company filed with the United States Securities and Exchange Commission ("SEC"), a resale registration statement for 24,000,000 common shares underlying these preferred shares.

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The dividend rights are the same as for common shares, other than dividends or other distributions to the extent payable in the form of common shares. Dividends on each full and each fractional Series A preferred share shall be cumulative.

In the event of liquidation of the Company, the greater of the $5.625 per share purchase price plus all accrued and unpaid dividends, and the amount per share that could be distributed to common shareholders, assuming the conversion of the preferred shares, shall be distributed to the holders of the preferred shares. If such payment is made, Series A preferred shareholders will have no further claim on assets.

Equity line financing

On October 3, 2000, the Company completed a standby financing share purchase agreement with an institutional investor. Subject to the terms and conditions of this agreement, the Company may issue and sell to the investor up to 14,690,000 shares in periodic draw-down periods over 24 months if all associated warrants are exercised. At November 30, 2001, the Company has not issued or sold any shares under this arrangement. However, pursuant to the terms of the arrangement, the Company has issued 169,500 warrants to the investor and 56,500 warrants to each of its advisors, Whale Securities Co., L.P. and Richard Geyser. The warrants are exercisable at any time until October 3, 2003 at $3.91 per share for the investor and $4.28 per share by Whale Securities Co., L.P. and Richard Geyser. As at November 30, 2001, no warrants have been exercised. The Company has deferred $0.6 million in financing charges, representing the fair value of the warrants issued to secure this financing. This commitment fee is being amortized over 24 months.

Stock option plans

The Company's stock option plans are administered by the Compensation Committee, which is a subcommittee of the Board of Directors. The Compensation Committee designates eligible participants to be included under the plans and designates the number of options and share price of the options, subject to applicable securities laws and stock exchange regulations. At November 30, 2001, there were approximately 13.9 million and 7.0 million common shares reserved for issuance under the Corel Corporation Stock Option Plan and the Corel Corporation Stock Option Plan 2000, respectively. Information with respect to stock option activity for 1999, 2000 and 2001 is as follows:

		Price per share (CDN$)	
Number of shares (000s)	Range	Weighted average	
Outstanding at November 30, 1998	8,281	$2.10 - $22.38	$8.65
Granted	3,022	3.37 - 11.70	3.41
Exercised	(5,054)	2.10 - 13.50	4.03
Forfeited	(1,883)	2.10 - 13.50	7.06
Expired	(1,313)	2.10 - 22.38	10.25
Outstanding at November 30, 1999	3,053	2.10 - 13.50	5.03
Granted	3,869	5.35 - 29.90	14.49
Exercised	(798)	2.06 - 13.50	4.08
Forfeited	(1,115)	2.10 - 15.25	14.44
Expired	(591)	7.70 - 13.50	7.88
Outstanding at November 30, 2000	4,418	3.00 - 29.90	10.65
Granted	2,840	3.30 - 4.80	4.22
Exercised	(174)	3.00 - 4.80	3.26
Forfeited	(2,198)	3.00 - 29.90	7.81

Expired			7.58
Outstanding at November 30, 2001	4,522	$3.00 - $15.25	$4.97

For various price ranges (in CDN$), weighted average characteristics of outstanding stock options at November 30, 2001 were as follows:

		Outstanding options	
		Remaining life	Weighted average
Range of grant price	Shares (000s)	(years)	
$ 3.00 - $ 5.00	2,894	3.4	$4.09
5.01 - 8.00	1,228	2.3	5.68
8.01 - 15.25	400	2.8	9.1
Outstanding at November 30, 2001	4,522	3.06	$4.97

The outstanding options expire between April 15, 2002 and November 7, 2005.

On November 16, 2000, the Board of Directors passed a resolution that allowed certain employees holding options granted in March 2000 at a price of CDN $15.25 (or the then US$ equivalent) and one senior officer with options at a price of $20.62 US to tender a maximum aggregate number of approximately 1.8 million options held by them for repricing. The exercise price of the repriced options, namely CDN $5.70 (or the then US$ equivalent), was the closing price of the Company's common shares on the Toronto Stock Exchange (TSE) on November 15, 2000. The condition of the repricing was to introduce a vesting schedule where one third of the options remained vested, one third vested March 30, 2001 and the remaining options will vest on March 30, 2002. Repricing of any of these options held by insiders, as defined by the Securities Act (Ontario), required shareholder approval, which was obtained. Non-employee directors' options were excluded from the repricings. At November 30, 2001, 1,544,500 options had been tendered for repricing to CDN $5.70 while 186,000 options had been tendered for repricing to US $3.63. The market price of the underlying common shares at November 30, 2001 was CDN $3.95 and US $2.52, respectively.

10. Earnings Per Share

The calculations of the earnings per share are based on the weighted daily average number of shares outstanding during the year. The calculation of diluted earnings per share assumes that all outstanding options and warrants have been exercised at the later of the beginning of the fiscal period or the option issuance date. As the impact of the exercise of these options and warrants is anti-dilutive in 2001 and in 2000, outstanding options and warrants have been excluded from the calculation of diluted earnings per share. See Note 9 for these other potentially dilutive instruments. In 1999, the dilutive effect of the weighted average share calculation results from the potential exercise of employee stock options.

11. Cost of Sales

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	Year ended November 30		
	2001	**2000**	**1999**
Cost of goods sold	$ 10,935	$ 28,036	$ 35,377
License amortization	11,014	11,880	12,674
Royalties	3,978	7,109	11,465
	$ 25,927	$ 47,025	$ 59,516

12. Income Taxes

Income tax expense (recovery) consists of the following:

	Year ended November 30		
	2001	**2000**	**1999**
Current:			
Canadian	$1,296	$3,913	$2,098
Foreign	1,275	(529)	(122)
	2,571	3,384	1,976
Future:			
Canadian	965	594	(6,897)
Foreign	503	727	975
	1,468	1,321	(5,922)
Income tax expense (recovery)	$4,039	$4,705	$(3,946)

The reported income tax provision differs from the amount computed by applying the Canadian statutory rate to income before taxes for the following reasons:

	Year ended November 30		
	2001	**2000**	**1999**
Income (loss) before income taxes and share of loss of equity investments:			
Canadian	$(4,417)	$8,779	$11,491
Foreign	1,604	(56,549)	1,757
	(2,813)	(47,770)	13,248
Expected statutory rate	42.0%	44.0%	44.6%
Expected tax expense (recovery)	$(1,181)	$(21,038)	$5,911
Foreign tax rate differences	479	21,865	7,048
Change in valuation allowance	2,053	6,470	(16,783)
Non-deductible expenses and non-taxable income		(494)	

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Withholding tax on foreign income	1,149		
Other	541	(2,098)	(122)
Reported income tax expense (recovery)	$4,039	$4,705	$(3,946)

The tax effects of significant temporary differences which gave rise to future taxes at November 30, 2001 and 2000 are:

	Year ended November 30	
	2001	**2000**
Assets		
Reserves and allowances	$2,328	$3,807
Book and tax differences on assets	10,033	3,344
Net operating loss carryforwards	23,324	19,304
Other	725	965
	36,410	27,420
Less: valuation allowance	(36,410)	(25,976)
Future income tax asset		$1,444
Current		$479
Long term		965
Future income tax asset		$1,444
Liabilities		
Book and tax differences on assets	$4,967	
Future income tax liability	$4,967	

The valuation allowance for future taxes is required due to the Company's operating history and management's assessment of various uncertainties related to their future realization. Changes in the valuation allowance include losses acquired from the purchase of Micrografx and changes in the revaluation of losses in various jurisdictions. Since the realization of future tax assets is dependent upon generating sufficient taxable income in the tax jurisdictions which gave rise to the future tax asset, the amount of the valuation allowance for future taxes may be reduced if it is demonstrated that positive taxable income in the various tax jurisdictions is sustainable in the future.

As at November 30, 2001, the Company has tax loss carryforwards of approximately $139.0 million which expire during the years 2007 to 2020. Approximately $28.0 million of these losses acquired with the purchase of Micrografx are restricted in the amount of the loss, which may be claimed each year based on U.S. tax loss limitations. A valuation allowance of approximately $8.5 million has been taken against the Micrografx losses. The benefit resulting from any subsequent realization of those losses would be allocated to reduce goodwill from the acquisition of Micrografx.

13. Business Acquisitions

A. Micrografx, Inc. ("Micrografx")

On October 30, 2001, the Company completed the acquisition of all of the issued and outstanding stock of Micrografx, a Dallas, Texas-based provider of enterprise process management and graphics software, solutions and services. The Company's consolidated statements of operations reflect the results of operations of Micrografx from the date of the acquisition.

The aggregate purchase price paid was approximately $33.8 million, consisting of 6,894,250 shares of newly issued common shares of Corel at a value of $16.0 million and 16,038,875 participation rights that were valued at $16.3 million (see Note 9). The value of the participation rights is to be paid in cash or common shares of Corel on October 30, 2002. In the event Corel's common share price at that time is equal to or less than $2.29, Corel will pay the remaining transaction value in cash. If Corel's common share price on October 30, 2002 is higher than $2.29, Corel will issue common shares with a then-current value equivalent to the remaining one-half of the transaction value plus, on a per share basis, 18 % of any increase in the value of Corel common shares in the 12 month period following the close.

The components of the aggregate purchase price were as follows (in thousands):

Common shares	$ 16,038
Participation rights	16,338
Other costs of acquisition	1,457
Total purchase price	$ 33,833

Other costs of acquisition include professional fees and other costs directly related to the acquisition.

The Micrografx acquisition has been accounted for in accordance with the purchase method of accounting. The purchase price has been allocated to identifiable tangible and intangible assets acquired and liabilities assumed based on their estimated fair values as follows:

Cash	$ 4,164
Other current assets	5,531
Developed software	8,760
In-process research and development	4,311
Property and equipment	323
Future tax liabilities	(4,967)
Bridge loan	(8,300)
Other liabilities	(13,523)
Net liabilities acquired	(3,701)
Total purchase price	33,833
Goodwill	$ 37,534

The estimates of fair value were determined by the Company's management based on information furnished by the management of Micrografx and an independent valuation of developed software and in-process research and development products.

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Goodwill will be re-evaluated on an annual basis for impairment. All losses due to impairment will be recorded against income in the year impairment is determined. Factors that contributed to goodwill include synergies to be achieved by combining Micrografx technologies with the Company's technologies, access to certain distribution channels and customer lists as well as additional workforce skill sets.

To determine the fair market value of the developed software and in-process research and development, the Company considered the three traditional approaches of value: the cost approach, the market approach and the income approach.

The Company relied primarily on the income approach, under which fair market value is a function of the future revenues expected to be generated by an asset, net of all allocable expenses. The income approach focuses on the income-producing capability of the developed software, core technology, and purchased research and development projects, and best represents the present value of the future economic benefits expected to be derived. In determining the amount of the purchase price to allocate to in-process research and development, factors such as stage of completion and technological uncertainties were considered by the Company and its independent appraiser in determining the present value of the future benefits to be received. If these projects are not successfully developed, the Company may not realize the value assigned to the in-process research and development.

B. SoftQuad Software, Ltd. ("SoftQuad")

On August 7, 2001, Corel and SoftQuad announced that they had signed a definitive agreement whereby Corel will acquire SoftQuad in a stock-for-stock transaction. SoftQuad is a developer of XML-enabling technologies and commerce solutions for e-Business. The transaction is subject to approval by SoftQuad's shareholders. Each common share, or equivalent, of SoftQuad will be exchanged for .4152 of a Corel common share on closing, being the ratio of $1.50 to $3.6129, assuming Corel's common share price at closing is between $2.71 per share and $4.52 per share. For prices outside this range, Corel would issue more shares at a lower price and fewer shares at a higher price. The maximum number of shares Corel could issue is approximately 11.6 million.

Subsequent to November 30, 2001, Corel will be providing a bridge loan of $2.0 million to SoftQuad to be used for operating activities. On February 6, 2002 the SEC declared the registration statement effective. SoftQuad shareholders are scheduled to vote on the acquisition on March 14, 2002.

14. Segmented Information

The Company has only one global operating segment, as detailed in the Consolidated Financial Statements included herein. The Company sells its

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products worldwide from three geographic regions. Sales by geographic region of products sold from consolidated operations is as follows:

| | Year ended November 30 | | |
	2001	2000	1999
By product group			
Creative products	$ 73,949	$ 75,919	$ 106,592
Business applications products	58,624	78,917	132,948
Other	1,747	2,651	3,511
	$ 134,320	$ 157,487	$ 243,051
By sales channel			
Retail packaged products	$ 77,838	$ 80,069	$ 140,200
OEM licenses	11,475	17,640	26,972
Corporate licenses	45,007	59,778	75,879
	$ 134,320	$ 157,487	$ 243,051
By region			
Canada	$ 7,666	$ 13,181	$ 13,833
U.S.A.	76,287	83,355	141,972
Europe, Middle East and Africa	35,313	42,453	64,123
Other	15,054	18,498	23,123
	$ 134,320	$ 157,487	$ 243,051
By major customer			
Ingram Micro, Inc.	$ 39,241	$ 27,123	$ 43,810
All others	95,079	130,364	199,241
	$ 134,320	$ 157,487	$ 243,051

15. Significant Differences Between Canadian and United States GAAP

The Company's financial statements are prepared on the basis of Canadian GAAP, which differs in some respects from US GAAP. There were no differences in reported cash flows for the periods presented. Significant differences between Canadian GAAP and US GAAP are reflected in the balance sheets and Statements of Operations set forth below:

| **Balance Sheet** | | As at November 30 | |
	Notes	2001	2000
Assets			
Current assets		$144,906	$162,605
Investments	(B)	10,310	13,399
Other non-current assets		250	1,515

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	Notes		
Capital assets	(A)		42,471
Goodwill	(A)	35,896	
Total assets		$230,174	$219,990
Liabilities			
Current liabilities		$54,360	$49,348
Income taxes payable	(B)	4,842	6,904
Future income tax liabilities	(A)	3,329	
Total liabilities		62,531	56,252
Shareholders' equity	(A)	167,312	162,644
Cumulative comprehensive income	(B)	331	1,094
Total liabilities and shareholders' equity		$230,174	$219,990

Statement of Operations information		Year ended November 30		
	Notes	2001	2000	1999
Net income (loss) in accordance with Canadian GAAP		$(7,324)	$(55,348)	$16,716
Adjustments to reconcile to US GAAP:				
Write-off of purchased in-process research and development		(4,311)		
Net income (loss) in accordance with US GAAP		**$(11,635)**	**$(55,348)**	**$16,716**
Comprehensive income	(C)			
Net income (loss) in accordance with US GAAP		$(11,635)	$(55,348)	$16,716
Unrealized holding gains (losses) on available	(B)	(979)	(1,699)	3,102
for sale securities				
Related income tax	(B)	216	729	(1,038)
Comprehensive income (loss)		$(12,398)	$(56,318)	$18,780
Income (loss) per share				
Basic		$(0.16)	$(0.80)	$0.27
Diluted		$(0.16)	$(0.80)	$0.27

A. In-process research and development

Associated with the allocation of the purchase price of the acquisition of Micrografx is $4.3 million for in-process research and development which, for US GAAP purposes, is to be expensed in the year of acquisition if the related technology has not reached technological feasibility and does not have an alternative future use (see Note 13). This adjustment results in a $4.3 million reduction of capital assets and increase in the reported net loss. This adjustment reduces the book value of the assets acquired and, in turn, the related tax difference on those assets resulting in a reduction of $1.6 million to the future tax liability and goodwill.

B. Available for sale securities

SFAS No. 115, "Accounting for Certain Investments in Debt and Equity Securities" ("SFAS 115") requires available-for-sale securities to be marked to market with unrealized holding gains or losses being accounted for in other comprehensive income. Accordingly, the reported carrying value of investments would be decreased by $0.4 million at November 30, 2001 and increased by $1.4 million at November 30, 2000. In addition, income taxes payable would be decreased by $0.1 million at November 30, 2001 and increased by $0.3 million at November 30, 2000.

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The Company adopted SFAS No. 130, "Reporting Comprehensive Income" ("SFAS 130") effective December 1, 1998. SFAS 130 requires disclosure of comprehensive income, which includes reported net earnings adjusted for other comprehensive income. Other comprehensive income includes items that cause changes in shareholders' equity but are not related to share capital or net earnings which, for the Company, comprises only unrealized holding gains on available-for-sale securities.

Stock options plans

The Company applies Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" (APB 25), and related interpretations in accounting for its employee stock option plan. Accordingly, the Company also applies United States Financial Accounting Standards Board ("FASB") Interpretation No. 44, "Accounting for Certain Transactions Involving Stock Compensation - an Interpretation of APB No. 25" ("FIN 44"), providing clarification of the accounting rules for stock-based compensation under APB 25. FIN 44 does not change FASB Statement of Financial Accounting Standards ("SFAS") No. 123 "Accounting for Stock-Based Compensation" ("SFAS 123") and, as such, no compensation expense has been recognized for its stock-based compensation plan. Had compensation cost for the Company's employee stock option plan been determined based on the fair value at the grant date for awards under the plan, consistent with the methodology prescribed under the SFAS 123, the Company's net income (loss) would have changed to the pro forma amounts indicated as follows:

	Year ended November 30		
	2001	**2000**	**1999**
Net Income (loss) in accordance with US GAAP	$ (11,635)	$ (55,348)	$ 16,716
Estimated stock-based compensation costs	(2,101)	(22,810)	(1,665)
Pro forma net income (loss)	$ (13,736)	$ (78,158)	$ 15,051
Pro forma income (loss) per share	$ (0.18)	$ (1.12)	$ 0.24

The fair values of all options granted during 2001, 2000 and 1999 were estimated as of the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

	2001	**2000**	**1999**
Expected option life (years)	3	3.07	3.34
Volatility	110	105	86
Risk free interest rate	4.53%	6.13%	4.78%
Dividend yield	nil	nil	nil

The fair values (in USD) at the date of grant for stock options granted during 2001, 2000 and 1999 were $1.85, $6.62 and $1.35 per option, respectively.

The Black-Scholes model, used by the Company to calculate option values, as well as other currently accepted option valuation models, were developed to estimate the fair value of freely tradeable, fully transferable options without vesting restrictions, which significantly differ from the Company's stock option awards. These models also require highly subjective assumptions, including future stock price volatility and expected time until exercise, which greatly affect the calculated values. Accordingly, management believes that these models do not necessarily provide a reliable single measure of the fair value of the Company's stock option awards.

On November 16, 2000, the Board of Directors passed a resolution that allowed certain employees holding options granted in March 2000 at a price of CDN $15.25 (or the then US$ equivalent) and one senior officer with options at a price of $20.62 US to tender a maximum aggregate number of approximately 1.8 million options held by them for repricing. The exercise price of the repriced options, namely CDN $5.70 (or the then US$ equivalent), was the closing price of the Company's common shares on the Toronto Stock Exchange (TSE) on November 15, 2000. The condition of the repricing was to introduce a vesting schedule where one third of the options remained vested, one third vested March 30, 2001 and the remaining options will vest on March 30, 2002. Repricing of any of these options held by insiders, as defined by the Securities Act (Ontario), requires shareholder approval. Non-employee directors' options were excluded from the repricings. At November 30, 2001, 1,544,500 options had been tendered for repricing to CDN $5.70 while 186,000 options had been tendered for repricing to US $3.63. The market price of the underlying common shares at November 30, 2001 was CDN $3.95 and US $2.52, respectively.

In accordance with FIN 44, the option repricing, as described above, will result in variable plan accounting for the re-priced options. Future periods may reflect compensation charges or credits depending on the fair market price of the underlying shares.

New accounting pronouncements

In fiscal 1998, the FASB issued SFAS No.133, "Accounting for Derivative Instruments and Hedging Activities" ("SFAS 133") which establishes standards for derivative instruments and hedging activities. It requires that all derivatives be recognized as either assets or liabilities on the Balance Sheet and be measured at fair value. SFAS 133 is effective for fiscal years beginning after June 15, 1999, which is the fiscal year beginning December 1, 1999 for the Company. Prior periods should not be restated. In June 1999, the FASB issued SFAS No. 137, which delays the effective date of SFAS 133 until fiscal years beginning after June 15, 2000, which was the fiscal year beginning December 1, 2000 for the Company. The adoption of this pronouncement has not had an impact on its results of operations or financial position.

During the year, the Canadian Institute of Chartered Accountants ("CICA") issued CICA 1581 - "Business Combinations" ("CICA 1581") and FASB issued SFAS No. 141, "Business Combinations", ("SFAS 141"). These standards are effective for all business combinations initiated after June 30, 2001, and require that the purchase method of accounting be used for all business combinations initiated after that date. Corel applied CICA 1581 and SFAS 141 to the Micrografx acquisition and will apply these pronouncements to future acquisitions.

During the year, the CICA issued CICA 3062 - "Goodwill and Other Intangible Assets" ("CICA 3062") and FASB issued SFAS No. 142, "Goodwill and Other Intangible Assets" ("SFAS 142"). These standards are effective for fiscal years beginning after December 15, 2001, which is the fiscal year beginning December 1, 2002 for the Company, but applied immediately to any business combinations consummated after June 30, 2001. CICA 3062 and SFAS 142 require that goodwill and intangible assets deemed to have indefinite lives will no longer be amortized, including goodwill recorded in past business combinations, but will be subject to annual impairment tests in accordance with the new guidelines. Other tangible assets will continue to be amortized over their useful lives. The Company believes that the adoption of these pronouncements will have a material effect on its results from operations and financial position.

In August 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets", ("SFAS 144"). This Statement addresses financial accounting and reporting for the impairment or disposal of long-lived assets. The provisions of this Statement are effective for financial statements issued for fiscal years beginning after December 15, 2001, which is the fiscal year beginning December 1, 2002 for the Company. The Company has not assessed the impact that the adoption of this standard will have on its results of operations or financial position.

In December 2001, the CICA issued AcG 13 - "Hedging Relationships" ("AcG 13"). The guideline presents the views of the Canadian Accounting Standards Board on the identification, designation, documentation and effectiveness of hedging relationships, for the purpose of applying hedge accounting. The guideline is effective for all fiscal years beginning on or after January 1, 2002, which is the fiscal year beginning December 1, 2002 for the Company. The Company does not believe that the adoption of this guideline will have a material impact on its results of operations or financial position, as it does not apply hedge accounting.

In January 2002, the CICA amended CICA 1650 - "Foreign Currency Translation" ("CICA 1650"). The amended standard eliminates the requirement to defer and amortize exchange gains and losses related to a foreign currency denominated monetary items with a fixed or ascertainable life extending beyond the end of the following fiscal year, and require new disclosure surrounding foreign exchange gains and losses. The standard is effective for all fiscal years beginning on or after January 1, 2002, which is the fiscal year beginning December 1, 2002 for the Company. The Company has not assessed the impact that the adoption of this standard will have on its results of operations or financial position.

In January 2002, the CICA issued CICA 3870 - "Stock-Based Compensation and Other Stock-Based Payments" ("CICA 3870"). This section establishes standards for the recognition, measurement and disclosure of stock-based compensation and other stock-based payments made in exchange for goods and services. This section sets out a fair value-based method of accounting and is required for certain, but not all, stock-based transactions. The recommendations of this section should be adopted for fiscal years beginning on or after January 1, 2002, which is the fiscal year beginning December 1, 2002 for the Company, and applied to awards granted on or after the date of adoption. The Company has not assessed the impact that the adoption of this standard will have on its results of operations or financial position.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

PART III

Item 10. Directors and Executive Officers of the Registrant

The following table sets forth certain information with respect to the executive officers and directors of Corel as at

February 15, 2002:

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Name	Age	Position with the Company
Derek J. Burney	39	President and Chief Executive Officer, Director
Amanda Bedborough	32	Executive Vice President, EMEA Operations
John Blaine	39	Executive Vice President, Finance, Chief Financial Officer and Treasurer
Graham Brown	38	Executive Vice President, Engineering
Steven Houck	32	Executive Vice President, Strategic Relations
Gary Klembara	50	Executive Vice President, Sales
Ian LeGrow	31	Executive Vice President, Product Strategy
Annette McCleave	42	Executive Vice President, Marketing
Rene Schmidt	44	Executive Vice President, Chief Technology Officer
James C. Baillie	64	Chair of the Board of Directors
Lyle B. Blair	71	Director
David A. Galloway	58	Director
Hunter S. Grant	59	Director
James L. Hopkins	55	Director
Jean-Louis Malouin	58	Director
Hon. Barbara McDougall	64	Director

Derek J. Burney joined the Company in April 1994 as the Project Leader for CorelFLOW. Mr. Burney was appointed Technology Manager in August 1995 and Director of CAD 3D in February 1996. He held this position until October 1997 when he left the Company to work at IMSI (International Microcomputer Software Inc.) in the product group that purchased CorelCAD, Corel Visual CADD, CorelFLOW, Corel Lumiere Suite, Corel Click & Create and Corel Family Tree Suite, from the Company. Upon his return to the Company in May 1998, Mr. Burney served as Senior Vice President Engineering until December 1998, at which time he was appointed Executive Vice President, Engineering. Mr. Burney held this position until August 2000, at which time he was appointed Interim President and CEO. In October 2000, he was appointed President and Chief Executive Officer and appointed to the Board of Directors.

Amanda Bedborough joined the Company in October 2001 as Executive Vice President, EMEA Operations, responsible for leading Corel's operations in the Europe, Middle East and Africa region. Before joining Corel, Ms. Bedborough had been Vice President, EMEA Operations for 3dfx Interactive since April 1999. Prior to holding that position, she was employed for over five years with STB Systems, Inc., serving as the company's International Sales and Marketing Director from November 1996.

John Blaine joined the Company in April 2000 as Executive Vice President, Finance and Chief Financial Officer. Mr. Blaine is responsible for the Company's worldwide financial operations. Prior to joining the Company, Mr. Blaine served as Vice President and Controller in the Dublin, Ohio corporate offices of Sterling Commerce Inc., an electronic commerce software and services provider.

Graham Brown joined the Company in 1991. He has served as Developer and Project Lead for CorelDRAW, Development Manager for Corel VENTURA Publisher and WordPerfect, and Director of Software Development for WordPerfect Office. Mr. Brown served as Vice President of Software Development, Business Applications from June 1998 to October 2000 when he was appointed Executive Vice President, Business Applications. In January 2002 Mr. Brown was appointed Executive Vice President, Engineering.

Steven Houck joined the Company in 1995 as a consultant for its multimedia division. He then moved on to become manager of the Company's OEM Accounts. In December 1999, he was appointed to Executive Vice President, Sales. Mr. Houck held that position until October 2001 when he was named to his current position of Executive Vice President, Strategic Relations.

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Gary Klembara joined the Company as Corel's Executive Vice President, Sales in October 2001. Mr. Klembara was Executive Vice President, Sales for Micrografx, Inc., from July 2000 to October 2001. Prior to joining Micrografx, Mr. Klembara was Executive Vice President, Worldwide Sales for Image2web, Inc., a Micrografx subsidiary. Prior to June 2000 he was National Director of Sales, Consultants and Systems Integrators Division of Compaq Computer.

Ian LeGrow joined the Company in 1994 and has held various positions in product development. Mr. LeGrow was Vice President of Software Development, CorelDRAW Graphics Suite from June 1998 to October 2000. In October 2000 he was appointed Executive Vice President, Creative Products. In January 2002, he was appointed to his current position of Executive Vice President, Product Strategy.

Annette McCleave joined the Company in 1990 as a member of the technical marketing team and served as Product Manager for CorelDRAW and Director of Product Management. From September 1999 to November 1999, she served as Vice President of Product Management. In June 1998, she was appointed Vice President of the New Ventures Division. She served as Executive Vice President, Corporate Communications from October 2000 until February 2001. In February 2001, she was appointed Executive Vice President, Marketing.

Rene Schmidt joined Corel in October 1995. Prior to his appointment as Executive Vice President, Linux Products in October of 2000, Mr. Schmidt led the scripting, common user interface and installation teams, and managed the Paradox, Quattro Pro, Corel LINUX OS and Linux porting development teams. Mr. Schmidt was appointed Chief Technology Officer in February, 2001. Prior to joining Corel Mr. Schmidt held several positions, including Chief Software Architect and Software Development Manager, over an eleven year period with Instantel, Inc.

James C. Baillie joined the Board of Directors as Chairman in August 2000. Mr Baillie is counsel to Torys, Barristers and Solicitors, where he practices in the general area of business law with an emphasis on financial institutions and securities law. Mr. Baillie was the Chair of the Ontario Securities Commission between 1978 and 1980, and was also the initial Chair of the federal government's Task Force on the Future of the Canadian Financial Services Sector from December 1996 to July 1997. Currently, Mr Baillie is the Chair of the Independent Electricity Market Operator (Ontario) and is a director of Sun Life Financial Services of Canada Inc.

Lyle B. Blair has been a director since September 1989. Mr. Blair has been Chairman of L.B. Blair Management Ltd. since 1976. L.B. Blair Management Ltd. has owned and operated several companies, including, from 1980 to 1992, Storwal International Inc., an office furniture manufacturer, and Thames Valley Beverages, the largest independent Ontario Pepsi bottler, from 1976 to 1988. Prior to 1976, Mr. Blair held senior international positions with Procter & Gamble Inc. and Pepsico Inc.

David A. Galloway joined the Board of Directors in October 2001. Mr. Galloway joined Torstar Corporation in 1981, became CEO of Harlequin, a division of Torstar, in 1982, and was appointed to his current position of President and CEO of Torstar in 1988.

Hunter S. Grant has been a director since September 1989. Mr. Grant was the Co-Publisher, President and General Manager of the Recorder and Times Limited, a newspaper publishing company, from July 1977 until July 1998. He is currently the President of Kingmer Holding Ltd.

James L. Hopkins joined the Board of Directors in October 2001, concurrent with Corel's completion of its acquisition of Micrografx, Inc. Prior to

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the acquisition of InterVoice Brite and ChannelPoint Executive in their respective organizations in September 2000 and October 2000, respectively. Prior to that, Mr. Hopkins was Managing Director of the Austin, Texas office of Hoak Breedlove Wesneski & Co., a technology investment banking firm. From 1991 through May 1999, Mr. Hopkins held a variety of positions with STB Systems, Inc., leading to the position of Vice President of Strategic Marketing and Chief Financial Officer. Mr. Hopkins remains on the Board of Directors for 3dfx Interactive in San Jose, CA as well as two early-stage, Texas-based, privately held software companies.

Jean-Louis Malouin became a director in November 1997. Dr. Malouin is a professor in the Faculty of Administration at the University of Ottawa where he served as Dean between 1992 and 2000. From 1989 to 1992, Dr. Malouin was the Dean of Administration at the University of Alberta and is a former dean at the Université Laval. He is an expert in operations and production management, management information systems design and research methodology. He has served as a management consultant for numerous organizations and institutions, including the Canadian International Development Agency (CIDA), the Université du Québec and the Ottawa Economic Development Corporation (OCEDCO).

Hon. Barbara McDougall became a director in April 1998. Since February 1999, Mrs. McDougall has been President and Chief Executive Officer of the Canadian Institute of International Affairs. Prior to that appointment, she was a private consultant on corporate governance and on international business. Mrs. McDougall was also chairperson of the Board of Directors of AT&T Canada. Her current corporate directorships include the Bank of Nova Scotia, Stelco Inc., and the Independent Order of Foresters. Prior to 1993, Mrs. McDougall was a Member of Parliament and Cabinet Minister in the Canadian Federal Government.

Under the Canada Business Corporations Act, a majority of the Board of Directors and a majority of Board Committee members must be resident Canadians. All directors hold office until the next annual meeting of shareholders and until their successors have been elected. The executive officers of the Company serve at the discretion of the Board of Directors of the Company. There are no family relationships among any of the directors and executive officers of the Company.

The Audit Committee reviews the internal accounting procedures of the Company, consults with and reviews the services provided by the Company's independent auditors.

The Compensation Committee has a mandate to: (a) monitor compliance with provincial legislation applicable in respect of employment practices of the Company, (b) determine the appropriate allocation of stock options to eligible participants in the Corel Corporation Stock Option Plan, (c) determine Chief Executive Officer and senior officer compensation, (d) monitor compliance with statutory requirements for employment matters, including remittances and legislation, and (e) review general policy matters relating to employment and wage equity, compensation and benefits of employees of the Company generally. The Compensation Committee met three times in fiscal 2001 and acted by way of resolution on other occasions.

The Company has a policy of compensation based on merit and performance and does not discriminate or distinguish with respect to persons performing similar functions. Compensation in the Company, as compared to industry surveys, is consistent with industry standards at the level necessary to attract and retain qualified personnel.

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Item 11. Executive Compensation

The following table, presented in CDN$, in accordance with the regulations of the Securities Act (Ontario), sets forth all compensation paid in respect of the individuals who were, at November 30, 2001, the Chief Executive Officer and the other four most highly compensated executive officers of the Company (the "named executive officers").

Summary Compensation Table

					Long-term	
		Annual compensation			compensation	
				Other		
				annual	Securities	All
Name and principal				compen-	under options	other
Position	Year	Salary	Bonus	sation [1]	granted (#)	compensation
Derek J. Burney	2001	$303,461	$122,500		187,500	
President and	2000	293,077	57,884		225,000	
Chief Executive Officer	1999	240,000	Nil		81,000	
Steven Houck	2001	200,753	135,456		19,000	
Executive Vice President,	2000	211,299	65,100		63,600	
Strategic Relations	1999	168,850	Nil		4,200	
John Blaine	2001	238,212	48,000		75,000	
Executive Vice President,	2000	134,135	Nil		100,000	
Finance, CFO and Treasurer	1999	-	-		-	
Annette McCleave	2001	205,827	45,150		56,250	
Executive Vice President,	2000	167,500	Nil		54,700	
Marketing	1999	139,699	Nil		13,000	
Ian LeGrow	2001	196,596	40,000		56,250	
Executive Vice President,	2000	163,269	Nil		54,700	
Product Strategy	1999	130,828	Nil		16,000	

Notes:

[1] Perquisites and other personal benefits do not exceed the lesser of CDN $50,000 and 10% of the total of the annual salary and bonus for any of the named executive officers.

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The following table sets forth the stock options granted under the Corel Corporation Stock Option Plan 2000 during the fiscal year ended November 30, 2001 to the named executive officers.

Option Grants for the Year Ended November 30, 2001

and Potential Realizable Value of Each Grant of Options

Name	Number of securities underlying options granted (#)	% of total options granted to employees in fiscal year	Exercise or base price ($/share) (CDN$)	Expiration date	Potential realizable value at assumed annual rates of stock price appreciation for option term (CDN$)	
					5% ($)	10 % ($)
Derek J. Burney	125,000	4.40%	$ 4.80	August 10, 2005	$ 129,304	$ 278,460
	62,500	2.20%	$ 3.30	October 1, 2005	44,448	95,721
Steven Houck	12,500	0.44%	$ 3.12*	August 10, 2005	8,405*	18,100*
	6,500	0.23%	$ 2.09*	October 1, 2005	2,928*	6,305*
John Blaine	50,000	1.76%	$ 4.80	August 10, 2005	51,722	111,384
	25,000	0.88%	$ 3.30	October 1, 2005	17,779	38,288
Annette McCleave	37,500	1.32%	$ 4.80	August 10, 2005	38,791	83,538
	18,750	0.66%	$ 3.30	October 1, 2005	13,334	28,717
Ian LeGrow	37,500	1.32%	$ 4.80	August 10, 2005	38,791	83,538
	18,750	0.66%	$ 3.30	October 1, 2005	13,334	28,717

(*) in US$.

The following table sets forth each exercise of stock options under the Corel Corporation Stock Option Plan during the fiscal year ended November

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Aggregated Option Exercises During the Fiscal Year Ended

November 30, 2001 and Fiscal Year-End Option Values

Name	Securities acquired on exercise (#)	Aggregat value realized (CDN$)	Unexercised options at Nov. 30, 2001 Exercisable/Unexercisable (#)	Value of unexercised in-the-money options at Nov. 30, 2001 Exercisable/Unexercisable (CDN$)
Derek Burney			228,502 / 199,998	$22,822 / $27,083
Steven Houck			48,735 / 33,865	$932* / $1,863*
John Blaine			118,335 / 56,665	$5,417 / $10,833
Annette McCleave			60,218 / 55,732	$6,963 / $8,125
Ian Legrow			71,218 / 55,732	$13,343 / $8,125

(*) in US$.

All options are exercisable as to one-third on each of the date of original grant and the first and second anniversaries thereof, except for options granted prior to October 2000, which are exercisable when granted (with the exception of options granted during an employee's probationary period, usually six months in length).

Compensation of Directors

Directors who are salaried officers of the Company receive no compensation for serving on the Board of Directors. The other directors (the "independent directors"), of whom there are currently seven, receive an annual retainer of CDN $16,000 (CDN $25,000 for Board Chair) and a fee of CDN $1,000 (CDN $2,000 for Board and Committee Chairs and Board Vice-Chair) for each Board of Directors and Committee meeting they attend, and are reimbursed for travelling costs and other out-of-pocket expenses incurred in attending such meetings.

On August 15, 2000, a Deferred Share Units Plan ("DSP") for non-employee members of the Board of Directors was established by the Company. Under the DSP, each director may elect to be paid up to 100% of his or her compensation in deferred share units ("DSUs"). A DSU is credited by

means of a book entry in the accounts of the Company to be entitled to receive the equivalent value of his or her mandate on the Board of Directors, in cash or by way of Common Shares equal in number to the DSUs credited to the director's account, based on the market value of the Common Shares at that time. The number of DSUs credited to each director is determined on the basis of the portion elected by each director of the amount payable to such director for the director's retainer and meeting fees for each financial quarter, divided by the value of a DSU (which is equal to the closing price of the Common Shares on The Toronto Stock Exchange ("TSE") on the third trading day after the announcement of the results for such financial quarter). DSUs are credited with dividend equivalents when dividends are paid on Common Shares and such dividend equivalents are converted into additional DSUs. Additional compensation consisting of options for Common Shares may be awarded to non-employee directors as the Board of Directors deems appropriate.

The total compensation earned by non-employee directors in the financial year ending November 30, 2001 for duties performed during that fiscal year was CDN $243,263. As of February 6, 2002, a total of 67,249 units have been credited to directors.

Employment Contracts and Termination of Employment and Change-in-Control Arrangements

The Corporation has entered into an employment agreement with Derek J. Burney dated as of October 17, 2001. The employment agreement sets forth the remuneration of Mr. Burney, including salary, bonus, vacation entitlement, car allowance and ancillary perquisites. Mr. Burney receives an annual base salary of CDN $350,000. Mr. Burney may terminate his employment with the Corporation at any time by giving 30 days notice of termination to the Corporation. If the Corporation terminates Mr. Burney without cause or good reason (as defined within the employment agreement), the Corporation will pay severance in the amount of 20 months' salary, which period increases by one month for every four months of service by Mr. Burney, which period shall not exceed 24 months in total (the "severance period"). If Mr. Burney is subsequently employed by another party for any portion of the severance period, the severance payment will be reduced by 50% during the period in which Mr. Burney has obtained alternate employment. Mr. Burney is also entitled to incentive payments earned during the severance period and accelerated vesting of any options that vest within the severance period.

On a change of control (as defined within the employment agreement), if Mr. Burney is terminated, he is entitled to an amount equivalent to 24 months' salary along with the other benefits described above.

Item 12. Security Ownership of Certain Beneficial Owners and Management

The following table sets forth, as of February 15, 2002, certain information with respect to the beneficial ownership of Common Shares by (1) each person known by the Company to be a beneficial owner of more than 5% of its outstanding Common Shares, (2) by each director and named executive officer and (3) by all directors and executive officers as a group.

Common shares beneficially owned	Exercisable

		options	Percentage owned (1)
Derek J. Burney	25,000	282,668	*
James C. Baillie	50,000	8,335	*
John Blaine		126,668	*
Lyle B. Blair		28,334	*
David A. Galloway		1,667	*
Hunter S. Grant	5,000	28,334	*
James Hopkins	267,463	4,167	*
Steven Houck	5,000	60,585	*
Ian LeGrow		84,017	*
Jean-Louis Malouin	1,000	28,334	*
Annette McCleave		73,017	*
Barbara McDougall		33,334	*
Directors and Executive Officers as a group (13 persons) (2)	353,463	959,828	*

* Indicates less than 1%

(1) Percentage ownership is calculated using as a denominator the total number of Common Share

outstanding plus the number of Common Shares which the beneficial owner indicated has a right to acquire pursuant to options currently exercisable or exercisable within 60 days.

(2) The address for each director and executive officer is Corel Corporation, 1600 Carling Avenue, Ottawa, Ontario, Canada, K1Z 8R7.

Statements contained in the table as to securities beneficially owned by directors, executive officers and beneficial owners of more than 5% of the Company's outstanding Common Shares are, in each instance, based upon information obtained from such directors and executive officers. Statements contained in the table as to securities beneficially owned by beneficial owners of holders of 5% or more of the Company's outstanding Common Shares are based on Schedules 13G or 13D filed by such persons with the U.S. Securities and Exchange Commission.

Item 13. Certain Relationships and Related Transactions

None

PART IV

APP. 069

Item 14. Exhibits, Financial Statement Schedules and Reports on Form 8-K

(a) The following documents are filed as a part of this Annual Report on Form 10-K.

1. Financial Statements

2. Financial Statements Schedule

The following financial statements schedule and related auditors' report are filed as part of this report herewith as Exhibits 99.1 and 99.2:

Schedule II Valuation and Qualifying Accounts for the years ended November 30, 2001, 2000 and 1999

All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore have been omitted.

3. Exhibits

Exhibit

3.1 Certificate and Articles of Incorporation. (1)

3.2 By-law No. 6. (1)

3.3 Certificate and Articles of Amalgamation of Corel Corporation and Corel Inc. Computer Corp. (1)

3.4 Amendment to Articles of Incorporation. (6)

4.1 Specimen of Common Share Certificate. (1)

4.2 Shareholder Rights Plan Agreement dated February 11, 1999, as amended and restated as of March 31, 1999, by and between the Company and Montreal Trust Company of Canada, as rights agent. (3)

10.1 Corel Corporation Stock Option Plan, as amended. (4)

10.2 Corel Corporation Stock Option Plan 2000. (4)

10.3 Share Purchase Agreement dated September 18, 2000 by and between the Company and Albans Investments Limited. (6)

10.4 Registration Rights Agreement dated September 18, 2000 by and between the Company and Albans Investments Limited. (6)

10.5 Escrow Agreement dated September 18, 2000 by and between the Company, Albans Investments Limited and Epstein Becker & Green, P.C., as escrow agent. (6)

10.6 Form of Share Purchase Warrant between the Company and each of Albans Investment Limited, Whale Securities Co., L.P., and Richard Geyser. (6)

10.7 Share Purchase Agreement dated October 2, 2000 by and between the Company and

Microsoft Corporation. (5)

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10.8 Re~~gistration~~ ~~Rights~~ ~~Agreement~~ ~~dated~~ ~~December~~ ~~2,~~ ~~2002~~ ~~by~~ ~~and~~ ~~between~~ ~~the~~ ~~Company~~ and Microsoft Corporation. (5)

10.9 Technology and Services Agreement dated October 2, 2000 by and between the Company and Microsoft Corporation. (5)

10.10 Employment Agreement dated as of October 17, 2001 between the Company and Derek J. Burney. (2)

10.11 Merger Agreement dated as of July 16, 2001 as amended and restated between the Company, Calgary I Acquisition Corp. and Micrografx, Inc. (7)

10.12 Participation Rights Agreement dated as of October 30, 2001 between the Company and The Bank of New York, as Trustee. (2)

10.13 Merger Agreement dated as of August 7, 2001 as amended and restated between the Company, Calgary II Acquisition Corp. and SoftQuad Software, Ltd. (8)

21.1 Subsidiaries of Registrant. (2)

23.1 Consent of PricewaterhouseCoopers LLP Chartered Accountants. (2)

99.1 Financial Statement Schedule - Schedule II - Valuation and Qualifying Accounts for the years ended November 30, 2001, 2000 and 1999. (2)

99.2 Auditors' Report to the Board of Directors on Financial Statement Schedules. (2)

(1) Previously filed as an exhibit to the Company's Registration Statement No. 33-50886 and incorporated herein by reference

(2) Filed herewith

(3) Previously filed as an exhibit to the Company's Registration Statement No. 000-20562 and incorporated herein by reference

(4) Previously filed as an exhibit to the Company's Registration Statement No. 333-42790 and incorporated herein by reference

(5) Previously filed as an exhibit to the Current Report on Form 8-K dated October 2, 2000 and incorporated herein by reference

(6) Previously filed as an exhibit to the Annual report on Form 10-K dated February 21, 2001 and incorporated herein by reference

(7) Previously filed as an exhibit to the Current Report on Form 8-K dated July 16, 2001 and incorporated herein by reference

(8) Previously filed as Annex A to the Company's Registration Statement 333-69868 and incorporated herein by reference

(b) Reports on Form 8-K

During the three-month period ended November 30, 2001, the Company filed one Current Report on Form 8-K, including information requested under Item 5 and Item 7 as follows:

On October 30, 2001, the Company reported the completion of the acquisition of Micrografx, Inc.

(c) Exhibits

(d) Financial Statement Schedules

The response to this portion of Item 14 is submitted as a separate section of this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Ottawa, Province of Ontario, Canada, on February 26, 2002.

COREL CORPORATION

By   /s/ John Blaine
                                              John Blaine
                                    Executive Vice President, Finance,
                                 Chief Financial Officer and Treasurer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Derek J. Burney and John Blaine, his or her Attorneys-in-fact, each with full power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each said Attorney-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant in the capacities indicated on February 26, 2002.

Signature	Title
/s/ James C. Baillie James C. Baillie	Chair of the Board of Directors
/s/ Derek J. Burney Derek J. Burney	President and Chief Executive Officer, Director
/s/ Lyle B. Blair Lyle B. Blair	Director
/s/ David Galloway David Galloway	Director
/s/ Hunter S. Grant Hunter S. Grant	Director
/s/ James Hopkins James Hopkins	Director
/s/ Jean-Louis Malouin Jean-Louis Malouin	Director
/s/ Barbara McDougall Barbara McDougall	Director
/s/ John Blaine John Blaine	Chief Financial Officer, Executive Vice President, Finance and Treasurer (principal financial and accounting officer)

Schedule II - 1

Index to Exhibits

Exhibit

Number   Description

3.1 Certificate and Articles of Incorporation. (1)

3.2 By-law No. 6. (1)

3.3 Certificate and Articles of Amalgamation of Corel Corporation and Corel Computer Corp. (1)

3.4 Amendment to Articles of Incorporation. (6)

4.1 Specimen of Common Share Certificate. (1)

4.2 Shareholder Rights Plan Agreement dated February 12, 1999, as amended and restated as of

March 31, 1999, by and between the Company and Montreal Trust Company of Canada, as rights agent. (3)

10.1 Corel Corporation Stock Option Plan, as amended. (4)

10.2 Corel Corporation Stock Option Plan 2000. (4)

10.3 Share Purchase Agreement dated September 18, 2000 by and between the Company and

Albans Investments Limited. (6)

10.4 Registration Rights Agreement dated September 18, 2000 by and between the Company

and Albans Investments Limited. (6)

10.5 Escrow Agreement dated September 18, 2000 by and between the Company, Albans Investments Limited and Epstein Becker & Green, P.C., as escrow agent. (6)

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and Microsoft Corporation. (5)

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and Microsoft Corporation. (5)

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10.12 Participation Rights Agreement dated as of October 30, 2001 between the Company and The Bank of New York, as Trustee. (2)

10.13 Merger Agreement dated as of August 7, 2001 as amended and restated between the Company, Calgary II Acquisition Corp. and SoftQuad Software, Ltd. (8)

21.1 Subsidiaries of Registrant. (2)

23.1 Consent of PricewaterhouseCoopers LLP Chartered Accountants. (2)

99.1 Financial Statement Schedule - Schedule II - Valuation and Qualifying Accounts for

the years ended November 30, 2001, 2000 and 1999. (2)

99.2 Auditors' Report to the Board of Directors on Financial Statement Schedules. (2)

(1) Previously filed as an exhibit to the Company's Registration Statement No. 33-50886 and incorporated herein by reference

(2) Filed herewith

(3) Previously filed as an exhibit to the Company's Registration Statement No. 000-20562 and incorporated herein by reference

(4) Previously filed as an exhibit to the Company's Registration Statement No. 333-42790 and incorporated herein by reference

(5) Previously filed as an exhibit to the Current Report on Form 8-K dated October 2, 2000 and incorporated herein by reference

(6) Previously filed as an exhibit to the Annual Report on Form 10-K dated December 31, 2001 and incorporated herein by reference

(7) Previously filed as an exhibit to the Current Report on Form 8-K dated July 16, 2001 and incorporated herein by reference

(8) Previously filed as Annex A to the Company's Registration Statement 333-69868 and incorporated herein by reference

EXHIBIT C

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TEXAS SECRETARY of STATE
JOHN STEEN

UCC | Business Organizations | Trademarks | Notary | Account | Help/Fees | Briefcase | Logout

BUSINESS ORGANIZATIONS INQUIRY - VIEW ENTITY

Filing Number:	801795038	Entity Type:	Domestic Limited Liability Company (LLC)
Original Date of Filing:	June 3, 2013	Entity Status:	In existence
Formation Date:	N/A		
Tax ID:	32051165069	FEIN:	
Duration:	Perpetual		
Name:	Micrografx, LLC		
Address:	350 N SAINT PAUL ST STE 2900 Dallas, TX 75201-4234 USA		

REGISTERED AGENT	FILING HISTORY	NAMES	MANAGEMENT	ASSUMED NAMES	ASSOCIATED ENTITIES

Name	Address	Inactive Date
Attorney Service Associates, Inc.	3610-2 N Josey Ln, Suite 223 Carrollton, TX 75007 USA	

[Order] [Return to Search]

Instructions:
- To place an order for additional information about a filing press the 'Order' button.

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EXHIBIT D

United States Patent and Trademark Office

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Assignments on the Web > Patent Query

Patent Assignment Abstract of Title

NOTE:Results display only for issued patents and published applications. For pending or abandoned applications please consult USPTO staff.

Total Assignments: 19

Patent #: 5959633   Issue Dt: 09/28/1999   Application #: 08726091   Filing Dt: 10/04/1996

Inventors: KEVIN E. MCFARLAND, RODNEY T. WHISNANT

Title: METHOD AND SYSTEM FOR PRODUCING GRAPHICAL IMAGES

Assignment: 1

Reel/Frame: 008258/0919   Recorded: 10/04/1996   Pages: 4

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors: MCFARLAND, KEVIN E.   Exec Dt: 10/04/1996

WHISNANT, RODNEY T.   Exec Dt: 10/04/1996

Assignee: MICROGRAFX, INC.
1303 ARAPAHO ROAD
RICHARDSON, TEXAS 75081

Correspondent: BAKER & BOTTS, LLP
JERRY W. MILLS ESQ
2001 ROSS AVENUE
DALLAS, TEXAS 75201-2980

Assignment: 2

Reel/Frame: 012754/0270   Recorded: 03/28/2002   Pages: 7

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: MICROGRAFX, INC.   Exec Dt: 10/30/2001

Assignee: CALGARY I ACQUISITION CORP.
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA K1Z 8

Correspondent: BAKER BOTTS L.L.P.
BARTON E. SHOWALTER
2001 ROSS AVENUE
SUITE 600
DALLAS, TEXAS 75201-2980

Assignment: 3

Reel/Frame: 012754/0277   Recorded: 03/28/2002   Pages: 7

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: CALGARY I ACQUISTION CORP.   Exec Dt: 10/30/2001

Assignee: COREL, INC.
OTTAWA
1600 CARLING AVENUE
ONTARIO K1Z 8R7, CANADA

Correspondent: BAKER BOTTS L.L.P.
BARTON E. SHOWALTER

2001 ROSS AVENUE,

SUITE 600
DALLAS, TX 75201-2980

Assignment: 4

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Reel/Frame: 012441/0559

Conveyance: CHANGE OF NAME (SEE DOCUMENT FOR DETAILS).

Assignor: COREL CORPORATION (USA)   Exec Dt: 11/16/2001

Assignee: COREL INC.
1600 CARLING AVENUE
OTTAWA ONTARIO KIZ 8R7, CANADA

Correspondent: BARTON E. SHOWALTER
BAKER BOTTS L.L.P.
2001 ROSS AVENUE
SUITE 600
DALLAS, TX 75201-2980

Assignment: 5

Reel/Frame: 012754/0291   Recorded: 03/28/2002   Pages: 7

Conveyance: MERGER (SEE DOCUMENT FOR DETAILS).

Assignor: COREL, INC.   Exec Dt: 11/16/2001

Assignee: COREL CORPORATION (USA)
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA K1Z 8

Correspondent: BAKER BOTTS, L.L.P
BARTON E. SHOWALTER
2001 ROSS AVENUE, SUITE 600
DALLAS, TX 75201-2980

Assignment: 6

Reel/Frame: 015596/0932   Recorded: 07/22/2004   Pages: 29

Conveyance: SECURITY INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: COREL CORPORATION   Exec Dt: 06/28/2004

Assignee: WELLS FARGO FOOTHILL, INC.
2450 COLORADO AVENUE
SUITE 3000 WEST
SANTA MONICA, CALIFORNIA 90404

Correspondent: FEDERAL RESEARCH CO., LLC
PENELOPE AGODOA
1030 15TH STREET, N.W.
SUITE 920
WASHINGTON, DC 20005

Assignment: 7

Reel/Frame: 016369/0020   Recorded: 03/14/2005   Pages: 5

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: COREL INC.   Exec Dt: 12/09/2004

Assignee: COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, ONTARIO K1Z 8R7, CANADA

Correspondent: BARTON E. SHOWALTER, ESQ.
BAKER BOTTS L.L.P.
2001 ROSS AVENUE, SUITE 600
DALLAS, TEXAS 75201-2980

Assignment: 8

Reel/Frame: 030675/0889   Recorded: 06/24/2013   Pages: 8

Conveyance: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE'S PLACE OF INCORPORATION PREVIOUSLY RECORDED ON REEL 016369 FRAME 0022. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNEE IS AN ONTARIO CORPORATION.

Assignor: COREL INC.   Exec Dt: 12/09/2004

Assignee: COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA K1Z 8R7

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Correspondent: ERIC L. MASCHOFF
                MASCHOFF BRENNAN
                1389 CENTER DRIVE, SUITE 300
                PARK CITY, UT 84098

Assignment: 9

Reel/Frame: 015687/0779   Recorded: 02/17/2005   Pages: 9
Conveyance: RELEASE OF SECURITY INTEREST
   Assignor: WELLS FARGO FOOTHILL, INC.   Exec Dt: 02/16/2005
Assignees: COREL INC.
                C/O COREL CORPORATION, 1600 CARLING AVENUE
                OTTAWA, CANADA K1Z 8R7

                COREL CORPORATION
                1600 CARLING AVENUE
                OTTAWA, CANADA K1Z 8R7
Correspondent: TORYS LLP
                237 PARK AVENUE
                NEW YORK, NY 10017

Assignment: 10

Reel/Frame: 016309/0733   Recorded: 02/28/2005   Pages: 43
Conveyance: SECURITY AGREEMENT
   Assignor: COREL CORPORATION   Exec Dt: 02/16/2005
Assignee: CREDIT SUISSE FIRST BOSTON TORONTO BRANCH
                P.O. BOX 301
                1 FIRST CANADIAN PLACE, SUITE 3000
                TORONTO, CANADA M5X 1C9
Correspondent: INTELLECTUAL PROPERTY DOCKETING
                SHEARMAN & STERLING LLP
                599 LEXINGTON AVENUE
                NEW YORK, NY 10022

Assignment: 11

Reel/Frame: 016784/0245   Recorded: 08/02/2005   Pages: 44
Conveyance: SECOND LIEN SECURITY AGREEMENT
Assignors: COREL CORPORATION   Exec Dt: 02/16/2005
                COREL US HOLDINGS, LLC   Exec Dt: 02/16/2005
Assignee: CREDIT SUISSE FIRST BOSTON TORONTO BRANON
                P.O. BOX 301

                1 FIRST CANADIAN PLACE, SUITE 3000
                TORONTO, CANADA M5X 1O9
Correspondent: INTELLECTUAL PROPERTY DOCKETING
                SHEARMAN & STERLING LLP
                599 LEXINGTON AVENUE
                NEW YORK, NY 10022

Assignment: 12

Reel/Frame: 017636/0417   Recorded: 05/17/2006   Pages: 45
Conveyance: RELEASE OF SECURITY INTERESTS
   Assignor: CREDIT SUISSE TORONTO BRANCH (FKA CREDIT SUISSE   Exec Dt: 05/02/2006
                FIRST BOSTON TORONTO BRANCH)
Assignees: COREL CORPORATION
                1600 CARLING AVENUE
                OTTAWA, ONTARIO, CANADA M1 8R7

                COREL US HOLDINGS, LLC
                79 WELLINGTON STREET WEST
                SUITE 3000, BOX 27, TD CENTRE
                TORONTO, ONTARIO, CANADA M5K 1N2

APP. 081

Correspondent: M. OREN EPSTEIN, ESQ.
SKADDEN, ARPS, SLATE, ET AL.
FOUR TIMES SQUARE
NEW YORK, NEW YORK 10036

Assignment: 13

Reel/Frame: 017656/0072	Recorded: 05/19/2006	Pages: 53

Conveyance: SECURITY AGREEMENT

Assignors:		
COREL CORPORATION		Exec Dt: 05/02/2006
COREL INC.		Exec Dt: 05/02/2006
COREL HOLDINGS CORPORATION		Exec Dt: 05/02/2006
WINZIP COMPUTING LLC		Exec Dt: 05/02/2006
WINZIP INTERNATIONAL LLC		Exec Dt: 05/02/2006
WINZIP COMPUTING LP		Exec Dt: 05/02/2006

Assignee: MORGAN STANLEY & COMPANY INC.
1585 BROADWAY
ATTN: GABRIELA NEVERGOLD
NEW YORK, NEW YORK 10036

Correspondent: M. OREN EPSTEIN, ESQ.
SKADDEN, ARPS, SLATE, ET AL.
FOUR TIMES SQUARE
NEW YORK, NEW YORK 10036

Assignment: 14

Reel/Frame: 018688/0422	Recorded: 12/29/2006	Pages: 9

Conveyance: ASSIGNMENT AND ASSUMPTION

Assignor: MORGAN STANLEY & COMPANY INCORPORATED		Exec Dt: 12/12/2006

Assignee: JPMORGAN CHASE BANK, N.A.
270 PARK AVENUE
15TH FLOOR

NEW YORK, NEW YORK 10017

Correspondent: OREN EPSTEIN
4 TIMES SQUARE
30-112
NEW YORK, NY 10036

Assignment: 15

Reel/Frame: 030427/0331	Recorded: 05/16/2013	Pages: 21

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: COREL CORPORATION		Exec Dt: 05/07/2013

Assignees: VECTOR CC HOLDINGS, SRL
BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017

VECTOR CC HOLDINGS III, SRL
BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017

VECTOR CC HOLDINGS IV, SRL
BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017

Correspondent: KIRKLAND & ELLIS LLP
SUSAN ZABLOCKI
601 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 16

Reel/Frame: 030427/0403	Recorded: 05/17/2013	Pages: 21

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

APP. 082

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            VECTOR CC HOLDINGS III, SRL   Exec Dt: 05/07/2013
            VECTOR CC HOLDINGS IV, SRL   Exec Dt: 05/07/2013
    Assignee: 8324450 CANADA INC.
             100 KING STREET WEST
             SUITE 6100
             TORONTO, ONTARIO, CANADA M5X 1B8
  Correspondent: KIRKLAND & ELLIS LLP
               SUSAN ZABLOCKI
               601 LEXINGTON AVENUE
               NEW YORK, NY 10022

Assignment: 17

   Reel/Frame: 030591/0454   Recorded: 06/11/2013   Pages: 71
   Conveyance: RELEASE BY SECURED PARTY (SEE DOCUMENT FOR DETAILS).
     Assignor: JPMORGAN CHASE BANK, N.A.   Exec Dt: 06/07/2013
    Assignees: COREL CORPORATION
              1600 CARLING AVENUE
              OTTAWA, ONTARIO, CANADA KIZ8R7
              COREL INC.
              385 RAVENDALE DRIVE
              MOUNTAIN VIEW, CALIFORNIA 94061
              COREL HOLDINGS CORPORATION
              1600 CARLING AVENUE

              OTTAWA, ONTARIO, CANADA K1Z8R7

              WINZIP COMPUTING LP
              EDIFICIO SOTA, GRAN VIA 45, 6 FLOOR
              BILBAO, SPAIN 48011
              WINZIP INTERNATIONAL LLC
              11 PROFESSIONAL PARK ROAD
              MANSFIELD, CONNECTICUT 06268
              WINZIP COMPUTING LLC
              11 PROFESSIONAL PARK ROAD
              MANSFIELD, CONNECTICUT 06268
  Correspondent: SALLY SEXTON
               1180 PEACHTREE ST.
               ATLANTA, GA 30309

Assignment: 18

   Reel/Frame: 030932/0762   Recorded: 08/02/2013   Pages: 10
   Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
     Assignor: 8324450 CANADA INC.   Exec Dt: 07/25/2013
    Assignee: MICROGRAFX, LLC
             350 NORTH ST. PAUL STREET
             SUITE 2900
             DALLAS, TEXAS 75201
  Correspondent: SUSAN ZABLOCKI
               KIRKLAND & ELLIS LLP
               601 LEXINGTON AVENUE
               NEW YORK, NY 10022

Assignment: 19

   Reel/Frame: 030986/0268   Recorded: 08/01/2013   Pages: 36
   Conveyance: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE, AND REPLACE THE ASSIGNMENT PREVIOUSLY
              RECORDED ON REEL 030427 FRAME 0331. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT TO
              8324450 CANADA INC.
     Assignor: COREL CORPORATION   Exec Dt: 07/25/2013

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Assignee: 3324450 CANADA INC

        100 KING STREET WEST

        SUITE 6100

        TORONTO, ONTARIO, CANADA M5X 1B8

Correspondent: SUSAN ZABLOCKI

        KIRKLAND & ELLIS LLP

        601 LEXINGTON AVENUE

        NEW YORK, NEW YORK 10022

Search Results as of: 12/20/2013 03:26 PM

If you have any comments or questions concerning the data displayed, contact PRD / Assignments at 571-272-3350. v.2.3.4

Web interface last modified: Jul 8, 2013 v.2.3.4

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EXHIBIT E

United States Patent and Trademark Office

Home | Site Index | Search | Guides | Contacts | eBusiness | eBiz alerts | News | Help

Assignments on the Web > Patent Query

Patent Assignment Abstract of Title
NOTE:Results display only for issued patents and published applications. For pending or abandoned applications please consult USPTO staff.

Total Assignments: 20

Patent #: 6057854   Issue Dt: 05/02/2000   Application #: 08901043   Filing Dt: 07/28/1997

Inventors: JOHN R. DAVIS JR., SCOTT M. GLAZER

Title: SYSTEM AND METHOD OF PROVIDING INTERACTIVE VECTOR GRAPHICS OVER A NETWORK

Assignment: 1

Reel/Frame: 008652/0387   Recorded: 07/28/1997   Pages: 5

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors: DAVIS, JOHN R., JR.   Exec Dt: 07/08/1997

GLAZER, SCOTT M.   Exec Dt: 07/08/1997

Assignee: MICROGRAFX, INC., A TX CORP.

1303 E. ARAPAHO ROAD

RICHARDSON, TEXAS 75081

Correspondent: BAKER & BOTTS, L.L.P.

TERRY J. STALFORD

2001 ROSS AVENUE

DALLAS, TX 75201-2980

Assignment: 2

Reel/Frame: 012754/0270   Recorded: 03/28/2002   Pages: 7

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: MICROGRAFX, INC.   Exec Dt: 10/30/2001

Assignee: CALGARY I ACQUISITION CORP.

1600 CARLING AVENUE

OTTAWA, ONTARIO, CANADA K1Z 8

Correspondent: BAKER BOTTS L.L.P.

BARTON E. SHOWALTER

2001 ROSS AVENUE

SUITE 600

DALLAS, TEXAS 75201-2980

Assignment: 3

Reel/Frame: 012754/0277   Recorded: 03/28/2002   Pages: 7

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: CALGARY I ACQUISTION CORP.   Exec Dt: 10/30/2001

Assignee: COREL, INC.

OTTAWA

1600 CARLING AVENUE

ONTARIO K1Z 8R7, CANADA

Correspondent: BAKER BOTTS L.L.P.

BARTON E. SHOWALTER

2001 ROSS AVENUE,

SUITE 600

DALLAS, TX 75201-2980

Assignment: 4

APP. 086

Reel/Frame: 012373/0359   Recorded: 11/26/2001   Pages: 1
Conveyance: CHANGE OF NAME (SEE DOCUMENT FOR DETAILS).
    Assignor: COREL CORPORATION (USA)   Exec Dt: 11/16/2001
    Assignee: COREL INC.
              1600 CARLING AVENUE
              OTTAWA ONTARIO KIZ 8R7, CANADA
Correspondent: BARTON E. SHOWALTER
               BAKER BOTTS L.L.P.
               2001 ROSS AVENUE
               SUITE 600
               DALLAS, TX 75201-2980

Assignment: 5

Reel/Frame: 012754/0291   Recorded: 03/28/2002   Pages: 7
Conveyance: MERGER (SEE DOCUMENT FOR DETAILS).
    Assignor: COREL, INC.   Exec Dt: 11/16/2001
    Assignee: COREL CORPORATION (USA)
              1600 CARLING AVENUE
              OTTAWA, ONTARIO, CANADA K1Z 8
Correspondent: BAKER BOTTS, L.L.P
               BARTON E. SHOWALTER
               2001 ROSS AVENUE, SUITE 600
               DALLAS, TX 75201-2980

Assignment: 6

Reel/Frame: 014560/0455   Recorded: 10/06/2003   Pages: 20
Conveyance: SECURITY INTEREST (SEE DOCUMENT FOR DETAILS).
    Assignor: COREL CORPORATION, AN ONTARIO CORPORATION   Exec Dt: 08/28/2003
    Assignee: WELLS FARGO FOOTHILL, INC.
              2450 COLORADO AVENUE
              SUITE 3000 WEST
              SANTA MONICA, CALIFORNIA 90404
Correspondent: FEDERAL RESEARCH CORPORATION
               PENELOPE AGODOA
               1030 15TH STREET, NW
               SUITE 920
               WASHINGTON, DC 20005

Assignment: 7

Reel/Frame: 015596/0932   Recorded: 07/22/2004   Pages: 29
Conveyance: SECURITY INTEREST (SEE DOCUMENT FOR DETAILS).
    Assignor: COREL CORPORATION   Exec Dt: 06/28/2004
    Assignee: WELLS FARGO FOOTHILL, INC.
              2450 COLORADO AVENUE
              SUITE 3000 WEST
              SANTA MONICA, CALIFORNIA 90404
Correspondent: FEDERAL RESEARCH CO., LLC
               PENELOPE AGODOA
               1030 15TH STREET, N.W.
               SUITE 920
               WASHINGTON, DC 20005

Assignment: 8

Reel/Frame: 016369/0020   Recorded: 03/14/2005   Pages: 5
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
    Assignor: COREL INC.   Exec Dt: 12/09/2004
    Assignee: COREL CORPORATION
              1600 CARLING AVENUE

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Correspondent: BARTON E. SHOWALTER, ESQ.
BAKER BOTTS L.L.P.
2001 ROSS AVENUE, SUITE 600
DALLAS, TEXAS 75201-2980

Assignment: 9

Reel/Frame: 030675/0889	Recorded: 06/24/2013	Pages: 8

Conveyance: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE'S PLACE OF INCORPORATION PREVIOUSLY RECORDED ON REEL 016369 FRAME 0022. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNEE IS AN ONTARIO CORPORATION.

Assignor: COREL INC.   Exec Dt: 12/09/2004

Assignee: COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA K1Z 8R7

Correspondent: ERIC L. MASCHOFF
MASCHOFF BRENNAN
1389 CENTER DRIVE, SUITE 300
PARK CITY, UT 84098

Assignment: 10

Reel/Frame: 015687/0779	Recorded: 02/17/2005	Pages: 9

Conveyance: RELEASE OF SECURITY INTEREST

Assignor: WELLS FARGO FOOTHILL, INC.   Exec Dt: 02/16/2005

Assignees: COREL INC.
C/O COREL CORPORATION, 1600 CARLING AVENUE
OTTAWA, CANADA K1Z 8R7

COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, CANADA K1Z 8R7

Correspondent: TORYS LLP
237 PARK AVENUE
NEW YORK, NY 10017

Assignment: 11

Reel/Frame: 016309/0733	Recorded: 02/28/2005	Pages: 43

Conveyance: SECURITY AGREEMENT

Assignor: COREL CORPORATION   Exec Dt: 02/16/2005

Assignee: CREDIT SUISSE FIRST BOSTON TORONTO BRANCH

P.O. BOX 301
1 FIRST CANADIAN PLACE, SUITE 3000
TORONTO, CANADA M5X 1C9

Correspondent: INTELLECTUAL PROPERTY DOCKETING
SHEARMAN & STERLING LLP
599 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 12

Reel/Frame: 016784/0245	Recorded: 08/02/2005	Pages: 44

Conveyance: SECOND LIEN SECURITY AGREEMENT

Assignors: COREL CORPORATION   Exec Dt: 02/16/2005
COREL US HOLDINGS, LLC   Exec Dt: 02/16/2005

Assignee: CREDIT SUISSE FIRST BOSTON TORONTO BRANON
P.O. BOX 301
1 FIRST CANADIAN PLACE, SUITE 3000
TORONTO, CANADA M5X 1O9

Correspondent: INTELLECTUAL PROPERTY DOCKETING
SHEARMAN & STERLING LLP

APP. 088

593 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 13
Reel/Frame: 017636/0417	Recorded: 05/17/2006	Pages: 45

Conveyance: RELEASE OF SECURITY INTERESTS

Assignor: CREDIT SUISSE TORONTO BRANCH (FKA CREDIT SUISSE FIRST BOSTON TORONTO BRANCH)　　　Exec Dt: 05/02/2006

Assignees: COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA M1 8R7

COREL US HOLDINGS, LLC
79 WELLINGTON STREET WEST
SUITE 3000, BOX 27, TD CENTRE
TORONTO, ONTARIO, CANADA M5K 1N2

Correspondent: M. OREN EPSTEIN, ESQ.
SKADDEN, ARPS, SLATE, ET AL.
FOUR TIMES SQUARE
NEW YORK, NEW YORK 10036

Assignment: 14
Reel/Frame: 017656/0072	Recorded: 05/19/2006	Pages: 53

Conveyance: SECURITY AGREEMENT

Assignors:	
COREL CORPORATION	Exec Dt: 05/02/2006
COREL INC.	Exec Dt: 05/02/2006
COREL HOLDINGS CORPORATION	Exec Dt: 05/02/2006
WINZIP COMPUTING LLC	Exec Dt: 05/02/2006
WINZIP INTERNATIONAL LLC	Exec Dt: 05/02/2006
WINZIP COMPUTING LP	Exec Dt: 05/02/2006

Assignee: MORGAN STANLEY & COMPANY INC.
1585 BROADWAY
ATTN: GABRIELA NEVERGOLD
NEW YORK, NEW YORK 10036

Correspondent: M. OREN EPSTEIN, ESQ.
SKADDEN, ARPS, SLATE, ET AL.
FOUR TIMES SQUARE
NEW YORK, NEW YORK 10036

Assignment: 15
Reel/Frame: 018688/0422	Recorded: 12/29/2006	Pages: 9

Conveyance: ASSIGNMENT AND ASSUMPTION

Assignor: MORGAN STANLEY & COMPANY INCORPORATED　　　Exec Dt: 12/12/2006

Assignee: JPMORGAN CHASE BANK, N.A.
270 PARK AVENUE
15TH FLOOR
NEW YORK, NEW YORK 10017

Correspondent: OREN EPSTEIN
4 TIMES SQUARE
30-112
NEW YORK, NY 10036

Assignment: 16
Reel/Frame: 030427/0331	Recorded: 05/16/2013	Pages: 21

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: COREL CORPORATION　　　Exec Dt: 05/07/2013

Assignees: VECTOR CC HOLDINGS, SRL
BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017

APP. 089

VECTOR CC HOLDINGS III, SRL
BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017
VECTOR CC HOLDINGS IV, SRL
BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017

Correspondent: KIRKLAND & ELLIS LLP
SUSAN ZABLOCKI
601 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 17

Reel/Frame: 030427/0403	Recorded: 05/17/2013	Pages: 21

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors: VECTOR CC HOLDINGS, SRL	Exec Dt: 05/07/2013
VECTOR CC HOLDINGS III, SRL	Exec Dt: 05/07/2013
VECTOR CC HOLDINGS IV, SRL	Exec Dt: 05/07/2013

Assignee: 8324450 CANADA INC.
100 KING STREET WEST
SUITE 6100
TORONTO, ONTARIO, CANADA M5X 1B8

Correspondent: KIRKLAND & ELLIS LLP
SUSAN ZABLOCKI

601 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 18

Reel/Frame: 030591/0454	Recorded: 06/11/2013	Pages: 71

Conveyance: RELEASE BY SECURED PARTY (SEE DOCUMENT FOR DETAILS).

Assignor: JPMORGAN CHASE BANK, N.A.	Exec Dt: 06/07/2013

Assignees: COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA KIZ8R7
COREL INC.
385 RAVENDALE DRIVE
MOUNTAIN VIEW, CALIFORNIA 94061
COREL HOLDINGS CORPORATION
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA K1Z8R7
WINZIP COMPUTING LP
EDIFICIO SOTA, GRAN VIA 45, 6 FLOOR
BILBAO, SPAIN 48011
WINZIP INTERNATIONAL LLC
11 PROFESSIONAL PARK ROAD
MANSFIELD, CONNECTICUT 06268
WINZIP COMPUTING LLC
11 PROFESSIONAL PARK ROAD
MANSFIELD, CONNECTICUT 06268

Correspondent: SALLY SEXTON
1180 PEACHTREE ST.
ATLANTA, GA 30309

Assignment: 19

Reel/Frame: 030932/0762	Recorded: 08/02/2013	Pages: 10

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: 8324450 CANADA INC.	Exec Dt: 07/25/2013

Assignee: MICROGRAFX, LLC

APP. 090

SUITE 2900

DALLAS, TEXAS 75201

Correspondent: SUSAN ZABLOCKI

KIRKLAND & ELLIS LLP

601 LEXINGTON AVENUE

NEW YORK, NY 10022

Assignment: 20

Reel/Frame:	030986/0268	Recorded: 08/01/2013	Pages: 36

Conveyance: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE, AND REPLACE THE ASSIGNMENT PREVIOUSLY RECORDED ON REEL 030427 FRAME 0331. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT TO 8324450 CANADA INC.

Assignor: COREL CORPORATION   Exec Dt: 07/25/2013

Assignee: 8324450 CANADA INC.

100 KING STREET WEST

SUITE 6100

TORONTO, ONTARIO, CANADA M5X 1B8

Correspondent: SUSAN ZABLOCKI

KIRKLAND & ELLIS LLP

601 LEXINGTON AVENUE

NEW YORK, NEW YORK 10022

Search Results as of: 12/20/2013 03:28 PM

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Web interface last modified: Jul 8, 2013 v.2.3.4

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APP. 091

EXHIBIT F

United States Patent and Trademark Office

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Assignments on the Web > Patent Query

Patent Assignment Abstract of Title
NOTE:Results display only for issued patents and published applications. For pending or abandoned applications please consult USPTO staff.

Total Assignments: 19

Patent #: 6552732   Issue Dt: 04/22/2003   Application #: 09491065   Filing Dt: 01/25/2000
Inventors: John r Davis JR., Scott M Glazer
        Title: SYSTEM AND METHOD OF PROVIDING INTERACTIVE VECTOR GRAPHICS OVER A NETWORK

Assignment: 1

Reel/Frame: 012840/0043   Recorded: 04/23/2002   Pages: 4
Conveyance: MERGER (SEE DOCUMENT FOR DETAILS).
Assignor: CALGARY I ACQUISITION CORP.   Exec Dt: 10/30/2001
Assignee: COREL, INC.
        1600 CARLING AVENUE
        OTTAWA, ONTARIO K1Z 8R7, CANADA
Correspondent: BAKER BOTTS L.L.P.
        BARTON E. SHOWALTER
        2001 ROSS AVENUE, SUITE 600
        DALLAS, TEXAS 75201-2980

Assignment: 2

Reel/Frame: 012840/0055   Recorded: 04/23/2002   Pages: 4
Conveyance: MERGER (SEE DOCUMENT FOR DETAILS).
Assignor: MICROGRAFX, INC.   Exec Dt: 10/30/2001
Assignee: CALGARY I ACQUISITION CORP.
        1600 CARLING AVENUE
        OTTAWA, ONTARIO K1Z 8R7, CANADA
Correspondent: BARTON E. SHOWALTER
        BAKER BOTTS L.L.P.
        2001 ROSS AVENUE
        SUITE 600
        DALLAS, TX 75201-2980

Assignment: 3

Reel/Frame: 012840/0146   Recorded: 04/23/2002   Pages: 4
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: COREL, INC.   Exec Dt: 11/16/2001
Assignee: COREL CORPORATION (USA)
        1600 CARLING AVENUE
        OTTAWA, K1Z 8R7, CANADA
Correspondent: BAKER BOTTS, LLP.
        BARTON E. SHOWALTER
        2001 ROSS AVE.
        STE. 600
        DALLAS, TX 75201-2980

Assignment: 4

Reel/Frame: 012840/0158   Recorded: 04/23/2002   Pages: 4
Conveyance: CHANGE OF NAME (SEE DOCUMENT FOR DETAILS).

APP. 093

Assignee: COREL INC.
          1600 CARLING AVENUE
          OTTAWA, ONTARIO K1Z 8R7, CANADA
Correspondent: BAKER BOTTS L.L.P.
               BARTON E. SHOWALTER
               2001 ROSS AVENUE, SUITE 600
               DALLAS, TX 75201-2980

Assignment: 5

Reel/Frame: 014560/0455   Recorded: 10/06/2003   Pages: 20
Conveyance: SECURITY INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: COREL CORPORATION, AN ONTARIO CORPORATION   Exec Dt: 08/28/2003
Assignee: WELLS FARGO FOOTHILL, INC.
          2450 COLORADO AVENUE
          SUITE 3000 WEST
          SANTA MONICA, CALIFORNIA 90404
Correspondent: FEDERAL RESEARCH CORPORATION
               PENELOPE AGODOA
               1030 15TH STREET, NW
               SUITE 920
               WASHINGTON, DC 20005

Assignment: 6

Reel/Frame: 015596/0932   Recorded: 07/22/2004   Pages: 29
Conveyance: SECURITY INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: COREL CORPORATION   Exec Dt: 06/28/2004
Assignee: WELLS FARGO FOOTHILL, INC.
          2450 COLORADO AVENUE
          SUITE 3000 WEST
          SANTA MONICA, CALIFORNIA 90404
Correspondent: FEDERAL RESEARCH CO., LLC
               PENELOPE AGODOA
               1030 15TH STREET, N.W.
               SUITE 920
               WASHINGTON, DC 20005

Assignment: 7

Reel/Frame: 016369/0020   Recorded: 03/14/2005   Pages: 5
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: COREL INC.   Exec Dt: 12/09/2004
Assignee: COREL CORPORATION
          1600 CARLING AVENUE
          OTTAWA, ONTARIO K1Z 8R7, CANADA
Correspondent: BARTON E. SHOWALTER, ESQ.
               BAKER BOTTS L.L.P.
               2001 ROSS AVENUE, SUITE 600
               DALLAS, TEXAS 75201-2980

Assignment: 8

Reel/Frame: 030675/0889   Recorded: 06/24/2013   Pages: 8
Conveyance: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE'S PLACE OF INCORPORATION PREVIOUSLY
           RECORDED ON REEL 016369 FRAME 0022. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNEE IS AN
           ONTARIO CORPORATION.
Assignor: COREL INC.   Exec Dt: 12/09/2004
Assignee: COREL CORPORATION
          1600 CARLING AVENUE
          OTTAWA, ONTARIO, CANADA K1Z 8R7
Correspondent: ERIC L. MASCHOFF

APP. 094

Case 3:13-cv-03599-N Document 32-2 Filed 01/06/14 Page 98 of 147 PageID 1095

1389 CENTER DRIVE, SUITE 300
PARK CITY, UT 84098

Assignment: 9

Reel/Frame:	015687/0779	Recorded: 02/17/2005

Pages: 9

Conveyance: RELEASE OF SECURITY INTEREST

Assignor: WELLS FARGO FOOTHILL, INC.   Exec Dt: 02/16/2005

Assignees: COREL INC.
C/O COREL CORPORATION, 1600 CARLING AVENUE
OTTAWA, CANADA K1Z 8R7

COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, CANADA K1Z 8R7

Correspondent: TORYS LLP
237 PARK AVENUE
NEW YORK, NY 10017

Assignment: 10

Reel/Frame:	016309/0733	Recorded: 02/28/2005

Pages: 43

Conveyance: SECURITY AGREEMENT

Assignor: COREL CORPORATION   Exec Dt: 02/16/2005

Assignee: CREDIT SUISSE FIRST BOSTON TORONTO BRANCH
P.O. BOX 301
1 FIRST CANADIAN PLACE, SUITE 3000
TORONTO, CANADA M5X 1C9

Correspondent: INTELLECTUAL PROPERTY DOCKETING
SHEARMAN & STERLING LLP
599 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 11

Reel/Frame:	016784/0245	Recorded: 08/02/2005

Pages: 44

Conveyance: SECOND LIEN SECURITY AGREEMENT

Assignors: COREL CORPORATION   Exec Dt: 02/16/2005
COREL US HOLDINGS, LLC   Exec Dt: 02/16/2005

Assignee: CREDIT SUISSE FIRST BOSTON TORONTO BRANON
P.O. BOX 301

1 FIRST CANADIAN PLACE, SUITE 3000
TORONTO, CANADA M5X 1O9

Correspondent: INTELLECTUAL PROPERTY DOCKETING
SHEARMAN & STERLING LLP
599 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 12

Reel/Frame:	017636/0417	Recorded: 05/17/2006

Pages: 45

Conveyance: RELEASE OF SECURITY INTERESTS

Assignor: CREDIT SUISSE TORONTO BRANCH (FKA CREDIT SUISSE   Exec Dt: 05/02/2006
FIRST BOSTON TORONTO BRANCH)

Assignees: COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA M1 8R7

COREL US HOLDINGS, LLC
79 WELLINGTON STREET WEST
SUITE 3000, BOX 27, TD CENTRE
TORONTO, ONTARIO, CANADA M5K 1N2

Correspondent: M. OREN EPSTEIN, ESQ.

APP. 095

Case 3:13-cv-03599-N Document 32-2   Filed 01/06/14   Page 99 of 147   PageID 1096

SKADDEN, ARPS, SLATE, ET AL.
FOUR TIMES SQUARE
NEW YORK, NEW YORK 10036

Assignment: 13

Reel/Frame:	017656/0072	Recorded: 05/19/2006	Pages: 53
Conveyance:	SECURITY AGREEMENT		
Assignors:	COREL CORPORATION	Exec Dt: 05/02/2006	
	COREL INC.	Exec Dt: 05/02/2006	
	COREL HOLDINGS CORPORATION	Exec Dt: 05/02/2006	
	WINZIP COMPUTING LLC	Exec Dt: 05/02/2006	
	WINZIP INTERNATIONAL LLC	Exec Dt: 05/02/2006	
	WINZIP COMPUTING LP	Exec Dt: 05/02/2006	

Assignee: MORGAN STANLEY & COMPANY INC.
1585 BROADWAY
ATTN: GABRIELA NEVERGOLD
NEW YORK, NEW YORK 10036

Correspondent: M. OREN EPSTEIN, ESQ.
SKADDEN, ARPS, SLATE, ET AL.
FOUR TIMES SQUARE
NEW YORK, NEW YORK 10036

Assignment: 14

Reel/Frame:	018688/0422	Recorded: 12/29/2006	Pages: 9
Conveyance:	ASSIGNMENT AND ASSUMPTION		
Assignor:	MORGAN STANLEY & COMPANY INCORPORATED	Exec Dt: 12/12/2006	
Assignee:	JPMORGAN CHASE BANK, N.A.		

270 PARK AVENUE
15TH FLOOR

NEW YORK, NEW YORK 10017

Correspondent: OREN EPSTEIN
4 TIMES SQUARE
30-112
NEW YORK, NY 10036

Assignment: 15

Reel/Frame:	030427/0331	Recorded: 05/16/2013	Pages: 21
Conveyance:	ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).		
Assignor:	COREL CORPORATION	Exec Dt: 05/07/2013	
Assignees:	VECTOR CC HOLDINGS, SRL		

BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017
VECTOR CC HOLDINGS III, SRL
BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017
VECTOR CC HOLDINGS IV, SRL
BRAEMAR COURT, DEIGHTON ROAD
ST. MICHAEL, BARBADOS BB14017

Correspondent: KIRKLAND & ELLIS LLP
SUSAN ZABLOCKI
601 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 16

Reel/Frame:	030427/0403	Recorded: 05/17/2013	Pages: 21
Conveyance:	ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).		
Assignors:	VECTOR CC HOLDINGS, SRL	Exec Dt: 05/07/2013	

APP. 096

Case 3:13-cv-03599-N   Document 32-2   Filed 01/06/14   Page 100 of 147   PageID 1097

VECTOR CC HOLDINGS IV, SRL   Exec Dt: 05/07/2013

Assignee: 8324450 CANADA INC.
100 KING STREET WEST
SUITE 6100
TORONTO, ONTARIO, CANADA M5X 1B8

Correspondent: KIRKLAND & ELLIS LLP
SUSAN ZABLOCKI
601 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 17

Reel/Frame: 030591/0454   Recorded: 06/11/2013   Pages: 71

Conveyance: RELEASE BY SECURED PARTY (SEE DOCUMENT FOR DETAILS).

Assignor: JPMORGAN CHASE BANK, N.A.   Exec Dt: 06/07/2013

Assignees: COREL CORPORATION
1600 CARLING AVENUE
OTTAWA, ONTARIO, CANADA KIZ8R7

COREL INC.
385 RAVENDALE DRIVE
MOUNTAIN VIEW, CALIFORNIA 94061

COREL HOLDINGS CORPORATION
1600 CARLING AVENUE

OTTAWA, ONTARIO, CANADA K1Z8R7

WINZIP COMPUTING LP
EDIFICIO SOTA, GRAN VIA 45, 6 FLOOR
BILBAO, SPAIN 48011

WINZIP INTERNATIONAL LLC
11 PROFESSIONAL PARK ROAD
MANSFIELD, CONNECTICUT 06268

WINZIP COMPUTING LLC
11 PROFESSIONAL PARK ROAD
MANSFIELD, CONNECTICUT 06268

Correspondent: SALLY SEXTON
1180 PEACHTREE ST.
ATLANTA, GA 30309

Assignment: 18

Reel/Frame: 030932/0762   Recorded: 08/02/2013   Pages: 10

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: 8324450 CANADA INC.   Exec Dt: 07/25/2013

Assignee: MICROGRAFX, LLC
350 NORTH ST. PAUL STREET
SUITE 2900
DALLAS, TEXAS 75201

Correspondent: SUSAN ZABLOCKI
KIRKLAND & ELLIS LLP
601 LEXINGTON AVENUE
NEW YORK, NY 10022

Assignment: 19

Reel/Frame: 030986/0268   Recorded: 08/01/2013   Pages: 36

Conveyance: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE, AND REPLACE THE ASSIGNMENT PREVIOUSLY RECORDED ON REEL 030427 FRAME 0331. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT TO 8324450 CANADA INC.

Assignor: COREL CORPORATION   Exec Dt: 07/25/2013

Assignee: 8324450 CANADA INC.

APP. 097

Case 3:13-cv-03599-N   Document 32-2   Filed 01/06/14   Page 101 of 147   PageID 1098

SUITE 6100

TORONTO, ONTARIO, CANADA M5X 1B8

Correspondent: SUSAN ZABLOCKI

KIRKLAND & ELLIS LLP

601 LEXINGTON AVENUE

NEW YORK, NEW YORK 10022

Search Results as of: 12/20/2013 03:28 PM

If you have any comments or questions concerning the data displayed, contact PRD / Assignments at 571-272-3350. v.2.3.4
Web interface last modified: Jul 8, 2013 v.2.3.4

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APP. 098

EXHIBIT G

US005959633A

United States Patent [19]

McFarland et al.

[11] **Patent Number:**   **5,959,633**

[45] **Date of Patent:**   **Sep. 28, 1999**

[54] **METHOD AND SYSTEM FOR PRODUCING GRAPHICAL IMAGES**

[75] Inventors: **Kevin E. McFarland**, Coppell; **Rodney T. Whisnant**, Plano, both of Tex.

[73] Assignee: **Micrografx, Inc.**, Richardson, Tex.

[21] Appl. No.: **08/726,091**

[22] Filed: **Oct. 4, 1996**

[51] **Int. Cl.**^{6} **G06F 15/00**
[52] **U.S. Cl.** **345/441**
[58] **Field of Search** 345/440, 441, 345/442, 443, 113, 114

[56]   **References Cited**

U.S. PATENT DOCUMENTS

5,790,117   8/1998 Haviatti et al. 345/333

5,805,160	9/1998	Yoshida et al.	345/339
5,812,131	9/1998	Bertram	345/339

OTHER PUBLICATIONS

Developing Visio Solutions, Version 4, 1995, pp. 1–163.

Primary Examiner—Phu K. Nguyen
Attorney, Agent, or Firm—Baker & Botts, L.L.P.

[57]   **ABSTRACT**

A method and system for producing graphical images includes a computer-readable medium and a computer program encoded on the computer-readable medium. The computer program is operable to access an external shape stored outside the computer program. The external shape comprises external capabilities. The computer program is further operable to delegate the production of a graphical image of the external shape to the external capabilities.

28 Claims, 5 Drawing Sheets

FIG. 1

FIG. 2

FIG. 3A

FIG. 3B

311 — DATA   METHODS

312   313

FIG. 3C

315 — DATA   METHODS

314   317

516   514

IUnkown   IAction

FIG. 4   518

Action Methods

Action 510	Data

352 →

Methods
(functions)

512

Action Methods
Abort()
Init(CActionInit *pInit)
Exit()
PostForeground(CDC *pDC)
SuspendForeground(BOOL bSuspend)
OnLButtonDblClk(UINT nFlags, CPoint point)
OnLButtonDown(UINT nFlags, CPoint point)
OnLButtonUp(UINT nFlags, CPoint point, BOOL bClick)
OnMouseMove(UINT nFlags, CPoint point)
OnRButtonDblClk(UINT nFlags, CPoint point)
OnRButtonDown(UINT nFlags, CPoint point)
OnRButtonUp(UINT nFlags, CPoint point)
OnSetCursor(CWnd* pWnd, UINT nHitTest, UINT message)
OnTimer(UINT nIDEvent)
OnKeyDown(UINT nChar, UINT nRepCnt, UINT nFlags)
OnKeyUp(UINT nChar, UINT nRepCnt, UINT nFlags)
OnChar(UINT nChar, UINT nRepCnt, UINT nFlags)
OnCommand(WP ARAM wP aram)
OnCommandAvailable(WP ARAM wP aram)
OnSetFocus(CWnd* pOldWnd);
OnKillFocus(CWnd* pNewWnd)
OnActivate(Int IActivate)

618

616 614

IUnkown

ISymbol

Symbol

610

(Data)

Methods
(functions)

612

354

FIG. 5

Symbol Methods

Duplicate ()
GetCaps()
SetCaps(unsigned long ulCaps)
GetLineStyle ()
GetPenWidth ()
GetPenHeight ()
GetPenAngle ()
GetPenStyle ()
GetEndStyle ()
GetEndRadius ()
GetFill ()
GetFillType ()
GetTransparency ()
GetLineColor ()
GetFillColor ()
GetBkColor ()
SetLineColor (COLORREF rgbNew)
SetLineStyle (BYTE)
SetPen (UINT Style,Int Width,Int Height,Int Angle)
SetPenWidth (Int Width)
SetPenHeight (Int Height)
SetPenAngle (Int Angle)
SetPenStyle (Int Style)
SetEndStyles (BYTE EndStyles,BYTE EndRadius)
SetEndStyle (BYTE Style)
SetEndRadius (BYTE Radius)
SetFillColor (COLORREF rgbNew)
SetFill (const CSymFill &NewFill,BOOL bCopy=TRUE,BOOL bDelete=TRUE)
SetFillType (EFillType NewType)
SetBkColor (COLORREF rgbNew)
SetTransparency (BOOL bTrans)
SetBackground (BOOL bOpaque,COLORREF rgbBackground)
CalculateBounds ()
GetVisibleBounds (RECT *pRect)
GetGeometricBounds (RECT *pRect)
GetTextDisplayBounds (LPRECT lpRect)
GetEndPoints (LPPOINT lpPoints)
GetCurves (LPPOINT *pPoints,Int *plNumPoints,Int CurveNum=0)
GetNumCurves()
Draw (CDrawInfo &DrawInfo) const=0:
Draw (CDrawInfo &DrawInfo, CXForm2D &xform)
GetTransform()
SetTransform(CXForm2D &xform)
GetPosition(LPPOINT lpPos)
Translate(const CPoint &ptOffset)
Shear(const CPoint &ptOrigin, double tShearFactor, BOOL bAboutX)
Rotate (const CPoint &Origin, double fAngle)
Scale (const CPoint &Origin, double xScale, double yScale)
MultiplyTransform (const CXForm2D &xform)
Serialize(CArchive &archive)
GetContextMenu(Cmenu *pMenu, BOOL bEditOnly)
GetNumEditActions()
GetEditAction(int iIdx)
GetHint(int IIdx, char *p, Int iLen)
GetNumConnectPts()
GetConnectPts(LPPOINT lpPoints)
GetConnectPt(int iIndex, LPPOINT lpPoint, LPPoint lpPointReference=NULL)
GetData(Int IType)
SetData(int iType, void * pData)
SwapUndo(Int IUndo, void *pData)
FreeUndo(Int IUndoID, void *pData)
GetShapeName(LPSTR str, Int iMax)

FIG. 6

710

USER ENTERS
MOUSE CLICK

122

730   740

MESSAGE
SENT TO
APPLICATION

MESSAGE
HANDLED BY
CURRENT
SELECTED
ACTION IN THE
APPLICATION

IF AN EXTERNAL
ACTION, THE
MESSAGE IS
ROUTED TO THE
APPROPRIATE
EXTERNAL SHAPE

720

ACTION
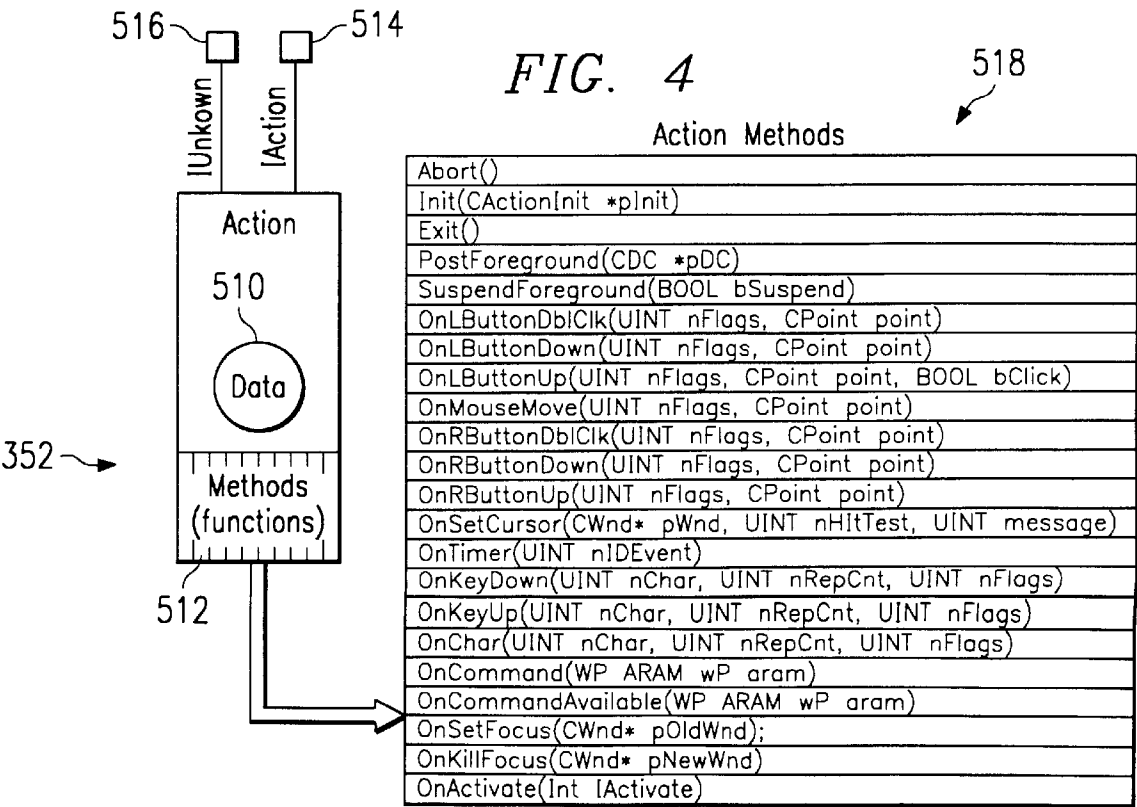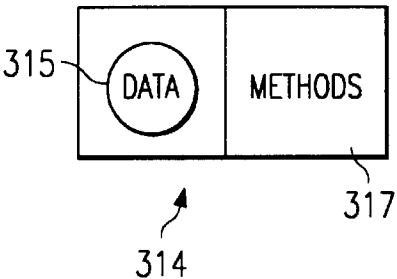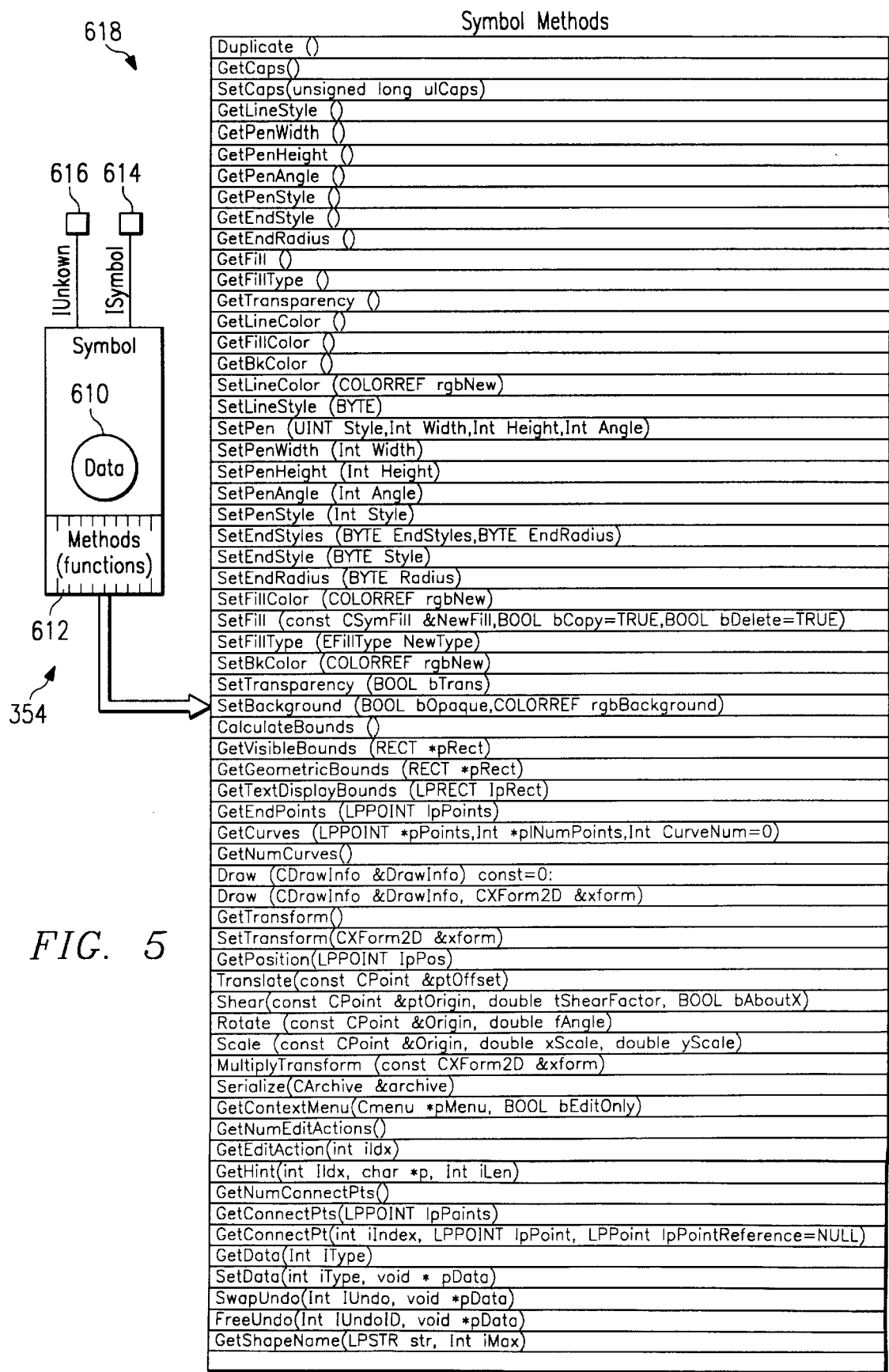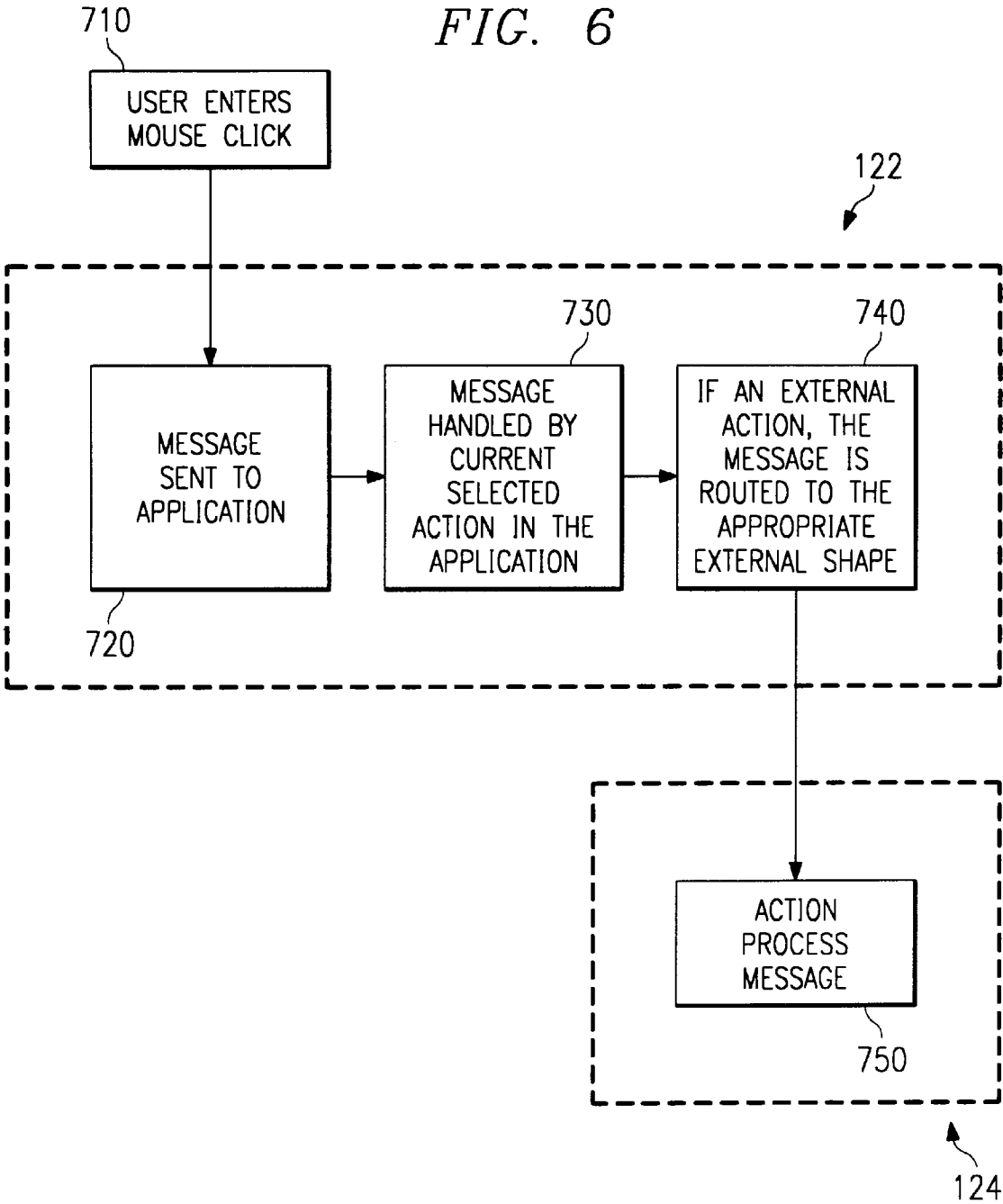PROCESS
MESSAGE

750

124

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METHOD AND SYSTEM FOR PRODUCING GRAPHICAL IMAGES

TECHNICAL FIELD OF THE INVENTION

This invention relates generally to the field of computer graphics and more particularly to a method and system for producing graphical images.

BACKGROUND OF THE INVENTION

Systems for creating computer graphics are well known. Many computer graphics systems provide tools within a computer program that allow a user to draw and edit a variety of shapes. However, conventional systems only enable a user to draw and edit a limited number of shapes. If additional shapes are desired, the computer program in the system must be modified to include the additional tools needed to draw and edit the desired shape. Adding new tools to the computer program each time a new shape is desired is a lengthy and costly process. Furthermore, once a computer program is released, it becomes difficult to update the program with additional shapes.

In an effort to overcome these disadvantages, one computer graphics system incorporates a limited component plug-in capability utilizing tables. When a particular shape is desired, the system accesses a table of data files. The data files contain information describing a shape. The shape is then created and edited with tools within the computer program. Such a system is limited to editing and creating shapes in ways permitted by the tools within the computer program. Thus, although shapes may be added after release of the computer program, the shapes that may be added are limited to shapes that the internal tools in the computer program know how to create and edit.

SUMMARY OF THE INVENTION

Therefore, a need has arisen for a new method and system that overcomes the disadvantages and deficiencies of the prior art.

The invention includes a method and system for generating graphical images. According to one embodiment of the invention, a method for producing graphical images includes executing a computer program and providing a shape library external to the computer program. The shape library defines a shape having associated capabilities. The method further comprises providing the capabilities associated with the shape to the computer program while the application is executing and generating a graphical image based on the capabilities.

According to another embodiment of the invention a system for producing graphical images includes a computer-readable medium and a computer program encoded on the computer-readable medium. The computer program is operable to access an external shape stored outside the computer program. The external shape has external capabilities. The computer program is further operable to delegate the production of a graphical image of the external shape to the external capabilities.

The invention provides several technical advantages. New shapes may be added easily without rewriting the underlying computer program. Additionally, shapes may be developed by third parties, addressing particular markets. Furthermore, because shapes may be developed external to the computer program, they may be developed outside the application project schedule. Moreover, because shapes may be added easily, upgrades to the computer graphics package may be

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provided more frequently at lower cost. In addition, the invention provides for the modular production of additional shapes. Shapes may be grouped in different modules based on similarity of appearance or other characteristics, such as intended use. For example, shapes commonly used in a particular technical field may be grouped in one module. The invention also provides an architecture that allows for the integration of additional shapes with an existing computer program without modifying that existing program.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and the advantages thereof, reference is now made to the following descriptions taken in connection with the accompanying drawings in which:

FIG. **1** illustrates a computer graphics system;

FIG. **2** illustrates in more detail the software architecture of the computer graphics system;

FIG. **3A** illustrates the interaction between a graphics application and shape library;

FIG. **3B** illustrates details of an internal action shown in FIG. **3A**;

FIG. **3C** illustrates details of an internal symbol shown in FIG. **3A**;

FIG. **4** shows a schematic of the external action associated with the external shape shown in FIG. **3A**;

FIG. **5** shows a schematic of the external symbol associated with the external shape shown in FIG. **3A**; and

FIG. **6** is an example flow chart of an example external action.

DETAILED DESCRIPTION OF THE INVENTION

An embodiment of the present invention and its advantages are best understood by referring to FIGS. **1** through **6** of the drawings, like numerals being used for like and corresponding parts of the various drawings.

FIG. **1** shows a schematic diagram of a computer graphics system **110** according to one embodiment of the invention. Computer graphics system **110** comprises computer software running on a general purpose computer. Computer graphics system **110** comprises a processor **112**, input device **114**, output device **116**, memory **118**, and disk drive **120**. The present invention comprises computer software that may be stored in memory **118** or on disk drive **120** and is executed by processor **112**. Disk drive **120** may comprise a variety of types of storage media such as, for example, floppy disk drives, hard disk drives, CD ROM disk drives, or magnetic tape drives. Data may be received from the user of computer graphics system **110** using a keyboard or any other type of input device **114**. Data may be output to a user of computer graphics system **110** through output device **116**. Output device **116** may comprise a variety of types of output devices such as, for example, a computer display or a printer.

Computer graphics system **110** comprises computer graphics application **122**, which is a computer software program for producing graphical images on output device **116**. In FIG. **1**, computer graphics application **122** is illustrated as being stored in memory **118** for execution by processor **112**. Computer graphics application **122** may also be stored in disk drive **120**. Computer graphics application **122** receives information from input device **114** and produces graphical images on output device **116**. Computer graphics system **110** further comprises an external shape

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library 124. In FIG. 1, shape library 124 is illustrated as being stored in memory 118. Shape library 124 may also be stored in disk drive 120. Shape library 124 contains information used by computer graphics application 122 to produce graphical images on output device 116. Information in shape library 124 is communicated to computer graphics application 122 through communication link 126. The computer graphics system 110 further comprises a shared library 130. In FIG. 1, shared library 130 is illustrated as being stored in memory 118. However, as discussed in greater detail below, shared library 130 may also be stored in disk drive 120. Shared library 130 provides a group of utility functions that may be used by either computer graphics system 110 or shape library 124.

FIG. 2 shows a schematic of memory 118 in block diagram form, further illustrating computer graphics application 122, shape library 124, communication link 126, and shared library 130 shown in FIG. 1. The computer graphics application 122 is a shape manipulator that, as discussed in greater detail below, is operable to access generic capabilities associated with an external shape and delegate the production of a graphical image of the external shape to the capabilities associated with the shape. The production of a graphical image may comprise, for example, generating data that may be used by the computer graphics application 122 to place a graphical image on an output device, generating data and placing a graphical image on an output device, writing a representation of a graphical image to memory, or the generation of other forms of representations of graphical images. Capabilities are action methods, symbol methods, or any other functions that allow the generation of information required to produce a graphical image. Exemplary action methods and symbol methods are discussed below. The ability to place the capabilities of a shape outside computer graphics application 122 provides several technical advantages. For example, shapes not contemplated at the time of creation of computer graphics application 122 may be subsequently added to computer graphics system 120 without modifying computer graphics application 122. Additionally, shapes may be developed by third parties, addressing particular markets. Furthermore, because shapes may be developed external to the computer graphics application 122, they may be developed outside the application project schedule. In addition, the invention provides for the modular production of additional shapes. Shapes may be grouped in different modules based on similarity of appearance or other characteristics, such as intended use. For example, shapes commonly used in a particular technical field may be grouped in one module. The invention also provides an architecture that allows for the integration of additional shapes with an existing computer program without modifying that existing program.

The shape library 124 comprises a plurality of shape collection modules 212 and 214. In a particular embodiment, shape collection modules 212 and 214 comprise a dynamic link library (DLL) that allows executable routines to be stored separately as files with DLL extensions and to be loaded only when needed by the program that calls them. In that embodiment, shape collection DLLs 212 and 214 are self-registering DLLs, which means they comprise two functions to register and unregister themselves through a system registry database for recognition by the computer graphics application 122. However, the present invention contemplates any suitable software architecture using dynamic link libraries, plug-ins, extensions, initialization files, or other modular arrangement that allows shape collection modules 212 and 214 to be stored external to computer graphics application 122.

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Shape collection modules 212 and 214 may be loaded into memory 118 from disk drives 120 when needed by computer graphics application 122. In one embodiment, shape collection modules 212 and 214 are loaded into memory 118 when computer graphics application 122 is executed. Because shape collection modules 212 and 214 are separate from computer graphics application 122, additions or improvements may be made to shape collection modules 212 and 214 without affecting the operation of computer graphics application 122. Although two shape collection modules 212 and 214 are explicitly shown, the computer graphics application 122 supports any number of shape collection modules. Shape collection library 124 may comprise, for example, shape collection modules delivered with computer graphics application 122, shape collection modules subsequently provided, and shape collection modules developed by third parties. Shape collection modules in shape library 124 may be organized in a variety of formats, including a flat structure or a hierarchial arrangement. In a hierarchial arrangement, related shape collection modules may contain sub-modules. The criteria for grouping shape collection modules and sub-modules may comprise appearance, field of application, or other suitable criteria for arranging collections of shapes. For example, shape collection module 212 may contain various forms of arrow shapes, and shape collection module 214 may contain various shapes related to digital electronic circuits.

The shared library 130 may also be a DLL. However, the present invention contemplates any suitable software architecture using dynamic link libraries, plug-ins, extensions, initialization files, or other modular arrangement that allows utility functions to be stored externally to computer graphics application 122 and shape library 124. Shared library 130 may be loaded into memory 118 from disk drives 120 when needed by computer graphics application 122. Shared library 130 provides a group of utility functions that may be used by either computer graphics system 110 or shape library 124. Examples of these utility functions include, for example, drawing small markers on a computer screen, such as on output device 116, or drawing a gradient blend.

The communication link 126 allows communication between computer graphics application 122 and shape library 124. Communication link 126 may comprise, for example, the component object model 210 used by the Object Linking and Embedding (OLE) technology developed by Microsoft. Communication link 126 may also comprise a simple dynamic link library application program interface, pipes, shared memories, or sockets as used in a UNIX operating environment as well as other emerging object-oriented technologies, such as OpenDoc, Nextstep, and CORBA. Communication link 126 allows communication of complex objects between external modules 212 and 214 and computer graphics application 122 without requiring knowledge of the contents of the external modules 212 and 214.

FIG. 3A shows a schematic of computer graphics application 122 and its interaction with shape library 124 in block diagram form, further illustrating details of computer graphics application 122. The computer graphics application 122 comprises a plurality of internal shapes 310 and 320 and one external shape 330. Internal shapes 310 and 320 each comprise information used by computer graphics application 122 to produce a different graphical image on output device 116. These images may comprise, for example, a circle or a rectangle. External shape template 330 comprises pointers to shapes contained within shape library 124, which are used by computer graphics application 122 to produce graphical images that are not supported by internal shapes 310 or 320.

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Each internal shape **310, 320** comprises a set of internal actions **312** and an internal symbol **314**. Internal actions **312** comprise a set of internal action methods **313** and a set of internal action data **311**, shown in FIG. 3B. Internal action methods **313** are functions that operate on internal action data **311** to generate an internal action **312**. An internal action **312** allows computer graphics application **122** to pass user interaction from input device **114**, such as mouse and keyboard inputs, to internal symbol methods **317**, which in turn generate information used by computer graphics application **122** to create, edit, render, modify, read, or write a graphical object. Examples of internal actions **312** comprise the create action and edit actions. The create action creates a representation of graphical image, for example a rectangle, that the computer graphics application **122** places on an output device. An edit action allows editing a graphical image. Both the create action and the edit action may comprise clicking on an external shape button or a menu item on a graphical user interface.

Internal symbol **314** comprises a set of internal symbol methods **317** and a set of internal symbol data **315**, as shown in FIG. 3C. The internal symbol methods **317** are functions that operate on internal symbol data **315** to generate information used by computer graphics application **122** to create, edit, render, modify, read, or write a graphical object on output device **116**. For example, internal symbol methods **317** may rotate a representation of a rectangle and the computer graphics application **122** may place a rotated rectangle on a computer screen based on the representation of the rotated rectangle produced by the internal symbol methods **317**.

FIG. 3A also illustrates shape library **124**. The shape library **124** comprises a plurality of shape collection modules **212** and **214**. Each shape collection module **212, 214** comprises a plurality of external shapes, such as external shapes **350, 360**, and **370**. Shape collection modules **212** and **214** may be organized such that similar shapes are contained within the same shape collection module. External shape **350** comprises a plurality of external actions **352, 353**, an external symbol **354**, and external resources **356**. External resources **356** provide additional information used by computer graphics application **122** to generate graphical images, for example, information related to bit mapped images.

The external shape template **330** does not comprise a predetermined set of actions and a symbol. Rather, in response to information from device **114**, external shape template **330** accesses an external shape contained within shape library **124**, such as external shape **350** or **360**, to utilize the capabilities of the external shape. The external shape template **330** comprises an external action template **332** and an external symbol template **334**. The external action template **332** accesses an external action, such as external actions **352** and **362**, and the external symbol template **334** accesses an external symbol, such as external symbols **354** and **366**.

In FIG. 3A, external shape template **330** is associated with two shapes **350** and **360** in shape library **124**. For shape **350**, external action template **332** points to external action **352** and external symbol template **334** points to external symbol **354**. For shape **360**, external action template **332** points to external action **362** and external symbol template **334** points to external symbol **366**. In FIG. 3A, shape template **330** does not point to shape **370**. Pointing to shapes **350** and **360** and not pointing to shape **370** by external shape template **330** corresponds to the condition of displaying two external shapes **350** and **360** contained within shape library **124** on output device **116** and not displaying a third external shape **370**.

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FIG. **4** shows a schematic of an external action **352** associated with external shape **350**. External action **352** comprises external action data **510** and external action methods **512**. External action methods **512** are functions that work together to operate on external action data **510** to create an external action. An external action, such as external action **352**, allows computer graphics application **122** to pass user interaction from input device **114**, such as mouse and keyboard inputs, to external symbol methods **612**, which as discussed below are functions that operate to create, edit, render, modify, read, or write a graphical object on output device **116**. Examples of external action **364** comprise the create action and edit actions. The create action creates a graphical image, for example a star. An edit action allows editing a graphical image, for example editing a star. A user may invoke the create star external action, for example, by clicking on a star button in a graphical user interface. The star button may provide a menu with a variety of types of stars.

External action methods **512** comprise generic action methods **518**. Generic action methods **518** comprise generic functions that are operable in combination to receive user interaction received by the computer graphics application **122** from input device **114** for manipulation of shapes that are not contained within computer graphics application **122** and that comprise a configuration unknown to computer graphics application **122**. The generic action methods **518** are defined generically in such a way that they may be applied to any type of shape. Unlike conventional systems, they are not specific to any one shape. The computer graphics application **122** is written to be operable to access the generic access methods **518** and the generic action methods **518** are exhaustive such that any action that may be associated with any shape can be represented by the generic access methods **518**. Thus, the generic action methods **518** are generic enough to allow for the subsequent creation of new actions through the use of generic action methods **518**. The use of generic action methods **518** and, as discussed below, generic symbol methods **618** allows external shapes to be used by computer graphics application **122**.

One of the generic action methods **518** comprises an initialization method, CActionInit method. The CActionInit method allows an external shape to communicate with the computer graphics application **122**. After execution of an external action, data or events are communicated by the external action through a callback function provided in the initialization of the action. The callback function is provided in the initialization of an action by a pointer within the CActionInit method. Data transfers that may be communicated by an external shape to the computer graphics application **122** through the use of a callback function provided in the initialization of an action comprise the transfer of an external symbol to the computer graphics application for insertion into a current drawing, querying a disk path to a CD-ROM for retrieving a file from the CD-ROM, passing data for "undoing" an operation, retrieving the area of a current page selection, or other types of data transfers. Events that may be communicated by an external shape to the computer graphics application **122** through the use of a callback function provided in the initialization of an action comprise notifying the application to display or not to display selection markers, notifying the computer graphics application **122** that the external symbol has been changed, invalidating the area of the external symbol for reprinting, or other events that may need to be communicated to the computer graphics application by an external action.

External action **352** is a queryable interface. A queryable interface may receive requests for communication in differ-

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ent formats. External action 352 supports an IAction interface format 514 and an IUknown interface format 516. The IAction interface format 514 is defined by generic action methods 518 and provides a format for communication with computer graphics application 122. The IUknown interface format 516 is a default interface format used in many applications and allows the computer graphics application 122 to access the IAction interface format 514. External actions associated with other external shapes are substantially similar to external action 352 associated with external shape 350.

FIG. 5 shows a schematic of an external symbol 354 associated with external shape 350. External symbol 354 comprises external symbol data 610 and external symbol methods 612. External symbol methods 612 are functions that operate on external symbol data 610 to create, edit, render, modify, read, or write a graphical object.

External symbol methods 612 comprise generic symbol methods 618. Generic symbol methods 618 are generic functions that allow manipulation of a graphical image of unknown configuration. The generic symbol methods are defined generically in such a way that they may be applied to any type of shape. Unlike conventional systems, they are not specific to any one shape. The generic symbol methods 618 are generic enough to allow for the subsequent creation of new symbols through use of generic symbol methods 618. The generic symbol methods 618 are also exhaustive such that any symbol or manipulation of any symbol can be represented by generic symbol methods 618. Because, computer graphics application 122 is operable to receive and utilize generic symbol methods 618, use of generic symbol methods 618 allows external shapes to be used by computer graphics application 122. Thus, the use of generic external symbol methods, such as generic external symbol methods 618, allows manipulation of graphical images that are not contained within computer graphics application 122 and that comprise a configuration unknown to computer graphics application 122.

External symbol 354 is also a queryable interface. External symbol 354 supports an ISymbol interface format 614 and an IUknown interface format 616. The ISymbol interface format 614 is defined by symbol methods 618 and provides a format for communication with computer graphics application 122. The IUknown interface format 616 is a default interface format used in many applications and allows the computer graphics application 122 to access the ISymbol interface format 614.

FIG. 6 is an example flow chart of an example external action, such as external action 352. At step 710 a user may enter a mouse click to provide a message that a desired action take place. For example, the user may click on a button in a graphical user interface to provide a message to computer graphics application 122 to create a star. At step 720 computer graphics application 122 receives the mouse click. Because the message requests an external action, at step 730 the external action template 332 is selected to handle the request. At step 740, external action template 332 routes the message to the appropriate external action associated with the desired star shape, such as action 352, in shape library 124. Steps 720, 730, and 740 are performed by computer graphics application 122 within computer graphics application 122. At step 750, the message for the requested action is received within shape library 124 and the external action is executed by the methods associated with the requested action in order to produce a star. External symbols, such as external symbol 354, are accessed by computer graphics application 122 in substantially the same way as external actions are accessed.

Referring now to FIGS. 1 through 6 of the drawings, the operation of one embodiment of the invention will be described. If a user desires to create an arrow on a computer screen, he makes an appropriate demand through input device 114. Such a demand may comprise, for example, clicking on a button in a graphical user interface with a mouse on a particular area of a computer screen to select a menu item. In response to a request from input device 114, computer graphics application 122 determines whether the desired graphical image is an external shape or an internal shape. If it is an external shape, external shape template 330 accesses external actions and an external symbol from a shape in shape library 124 that is associated with the desired external shape. The execution of the external actions and the external symbol may draw an arrow on output device 116. Because the external actions comprise generic action methods 518 and the external symbol comprises generic symbol methods 618, the computer graphics application 122, which is operable to access and use generic action methods 518 and generic symbol methods 618, is able to produce a graphic image based on an external shape, even if the external shape was produced subsequent to the generation of computer graphics application 122.

Therefore, the invention provides a system for the production of graphical images that allows shapes to be stored outside the computer program using the shapes. New shapes may be added to the system without incurring the disadvantages associated with revising the computer program. Furthermore, because the invention provides a program operable to receive a robust set of generic action methods 518 and a robust set of generic symbol methods 618 from external shapes in shape library 124, the invention allows for the addition of shapes with capabilities not contemplated at the time the computer program was written. Thus, unlike conventional systems, the invention is not limited to utilizing external shapes that have predetermined capabilities.

Although the invention has been particularly shown and described by the foregoing detailed description, it will be understood by those skilled in the art that various other changes in form and detail may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. A computerized system comprising:

a storage medium;

a processor coupled to the storage medium;

a computer program stored in the storage medium, the computer program operable to run on the processor, the computer program further operable to:

access an external shape stored outside the computer program, the external shape comprising external capabilities; and

delegate the production of a graphical image of the external shape to the external capabilities.

2. The computerized system of claim 1, wherein the computer program is further operable to:

access an external shape stored outside the computer program, the external shape comprising an external action and an external symbol; and

delegate the production of graphical image of the external shape to the external action and the external symbol.

3. The computerized system of claim 2, wherein the computer program is further operable to:

receive user input in a manner defined by the external action; and

manipulate the graphical image in response to the user input in a manner defined by the external symbol.

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4. The computerized system of claim **2** wherein the external action comprises a plurality of external methods and external data.

5. The computerized system of claim **4** wherein the plurality of external methods comprises:

a first method responsive to a mouse button activation;

a second method responsive to a mouse movement;

a third method responsive to input from a keyboard; and

a fourth method responsive to a command received from the computer program based on input received from a user.

6. The computerized system of claim **2** wherein the external symbol comprises a plurality of external methods and external data.

7. The computerized system of claim **6** wherein the plurality of external methods comprises:

a first external method operable to set the attributes of the external symbol;

a second external method operable to calculate the bounds of the external symbol;

a third external method operable to get the attributes of the external symbol;

a fourth external method operable to render the external symbol; and

a fifth external method operable to archive the external symbol.

8. A computer program encoded on a computer-readable medium, the computer program operable to:

access an external shape stored outside the computer program, the external shape comprising external capabilities; and

delegate the production of a graphical image of the external shape to the external capabilities.

9. The computer program of claim **8**, wherein the computer program is further operable to:

access an external shape stored outside the computer program, the external shape comprising an external action and an external symbol; and

delegate the production of a graphical image of the external shape to the external action and the external symbol.

10. The computer program of claim **9**, wherein the computer program is further operable to:

receive user input in a manner defined by the external action; and

manipulate the graphical image in response to the user input in a manner defined by the external symbol.

11. The computer program of claim **9**, wherein the external action comprises a plurality of external methods and external data.

12. The computerized system of claim **11** wherein the plurality of external methods comprises:

a first method responsive to a mouse button activation;

a second method responsive to a mouse button activation; and

a third method operable to allow the external shape to communicate data and events to the computer program.

13. The computer program of claim **9** wherein the external symbol comprises a plurality of external methods and external data.

14. The computerized system of claim **13** wherein the plurality of external methods comprises:

a first external method operable get the attributes of the external symbol;

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a second external method operable to calculate the bounds of the external symbol;

a third external method operable to transform the external symbol;

a fourth external method operable to render the external symbol; and

a fifth external method operable to archive the external symbol.

15. The computer program of claim **8** wherein the external capabilities comprise a plurality of external methods and external data.

16. A method for producing graphical images comprising:

executing a computer program;

providing a shape library external to the computer program, the shape library having at least one shape, the at least one shape having capabilities;

providing the capabilities associated with the at least one shape to the computer program while the application is executing; and

generating a graphical image based on the capabilities.

17. The method of claim **16** wherein the step of providing a shape library comprises providing a dynamic link library.

18. The method of claim **16** wherein the step of providing the capabilities associated with the shape comprises providing a plurality of actions comprising a plurality of action methods and providing a symbol comprising a plurality of symbol methods.

19. The method of claim **18** wherein the plurality of action methods comprises:

a first method responsive to a mouse button activation;

a second method responsive to a mouse movement;

a third method responsive to input from a keyboard; and

a fourth method responsive to a command received from the computer program based on input received from a user.

20. The computerized system of claim **18** wherein the plurality of symbol methods comprises:

a first external method operable get the attributes of the symbol;

a second external method operable to calculate the bounds of the symbol;

a third external method operable to transform the symbol;

a fourth external method operable to render the symbol; and

a fifth external method operable to archive the symbol.

21. A computer graphics program encoded on a computer readable medium for generating a graphical image, comprising:

an external shape module having an external shape that defines an external action and an external symbol, the external action operable to perform a generic action method and the external symbol operable to perform a generic symbol method;

a communication link coupled to the external shape module; and

a computer graphics application coupled to the communication link and operable to communicate with the external shape module using the communication link, the computer graphics application comprising an external action template operable to access the external action and an external symbol template operable to access the external symbol, the computer graphics application further operable to delegate the production of a graphical image to the generic action method and the generic symbol method.

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22. The computer graphics program of claim **21,** further comprising an internal shape defining an internal action and an internal symbol.

23. The computer graphics program of claim **21,** wherein the external symbol is operable to perform a plurality of generic symbol methods.

24. The computer graphics program of claim **21,** wherein the external shape module comprises a dynamic link library.

25. The computer graphics program of claim **21,** further comprising a shared library and wherein the computer graphics application is further operable to access the shared library and the external shape library is operable to access the shared library.

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26. The computer graphics program of claim **21,** wherein the communication link is operable to allow communication between the external shape library and the computer graphics application without the computer graphics application requiring knowledge of the contents of the external shape library.

27. The computer graphics program of claim **21,** wherein the communication link comprises the Object Linking and Embedding technology developed by Microsoft.

28. The computer graphics program of claim **21,** wherein the communication link comprises a dynamic link library application program interface.

* * * * *

EXHIBIT H

US006057854A

United States Patent [19]

Davis, Jr. et al.

[11] **Patent Number:** **6,057,854**

[45] **Date of Patent:** **May 2, 2000**

[54] **SYSTEM AND METHOD OF PROVIDING INTERACTIVE VECTOR GRAPHICS OVER A NETWORK**

[75] Inventors: **John R. Davis, Jr.**, Garland; **Scott M. Glazer**, Richardson, both of Tex.

[73] Assignee: **Micrografx, Inc.**, Allen, Tex.

[21] Appl. No.: **08/901,043**

[22] Filed: **Jul. 28, 1997**

Related U.S. Application Data

[60] Provisional application No. 60/040,332, Mar. 7, 1997.

[51] **Int. Cl.[7]** **G06T 13/00**

[52] **U.S. Cl.** **345/433**; 345/441; 345/443; 345/334; 345/339; 707/502; 707/513; 707/515; 707/528

[58] **Field of Search** 345/433, 441, 345/443, 339, 334; 707/502, 513, 515, 528

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Primary Examiner—Mark K. Zimmerman
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Attorney, Agent, or Firm—Baker Botts L.L.P.

[57] **ABSTRACT**

An interactive vector object (56, 76, 102) operable to be downloaded over a network (16) may comprise data (58, 104) to render an image of the vector object (56, 76, 102) and an active area defined by the vector object (56, 76, 102). A vector graphics network file (88) may in connection with the data (58, 104) render the image of the vector object (56, 76, 102) on a client system (14) connectable to the network (16).

79 Claims, 5 Drawing Sheets

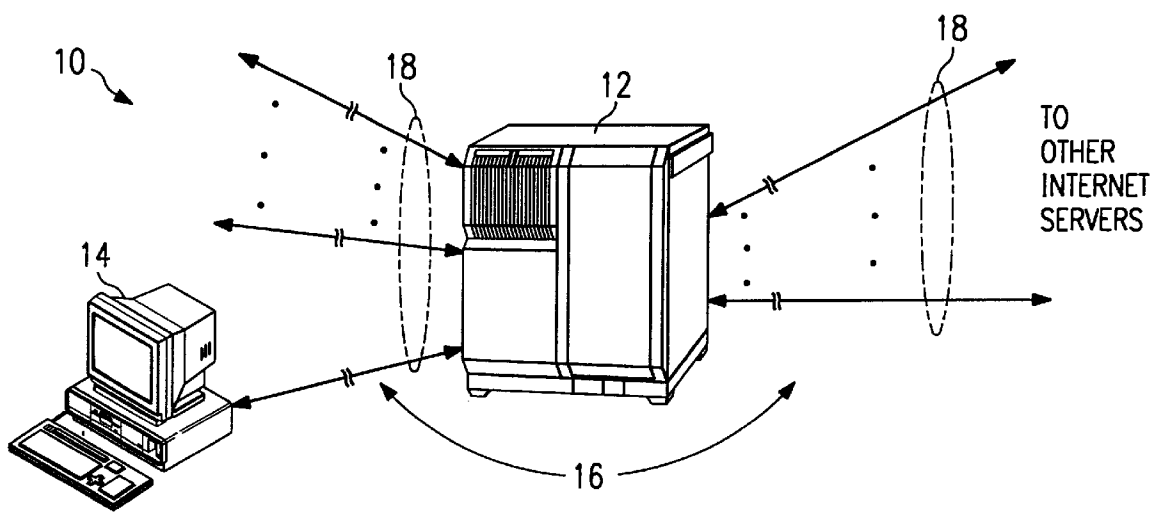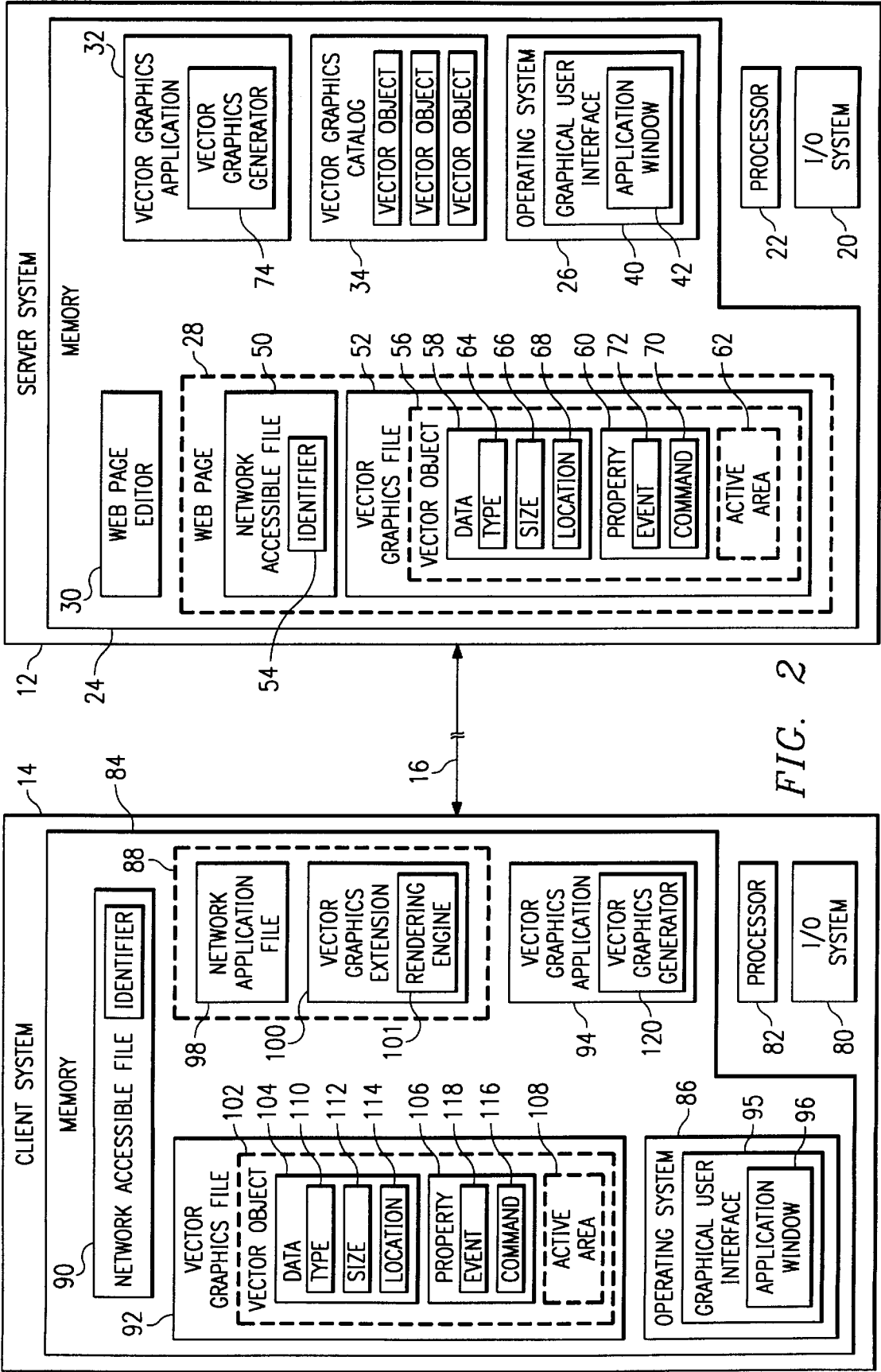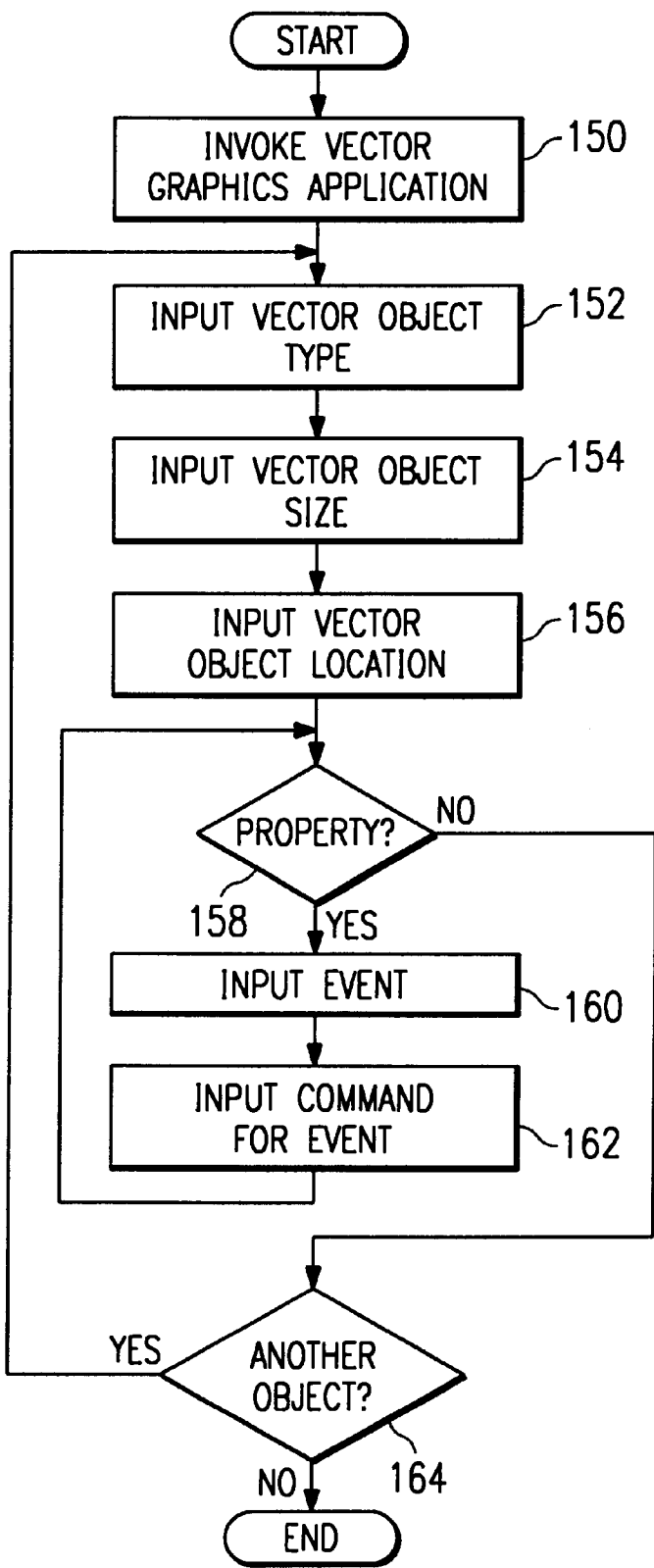APP. 113

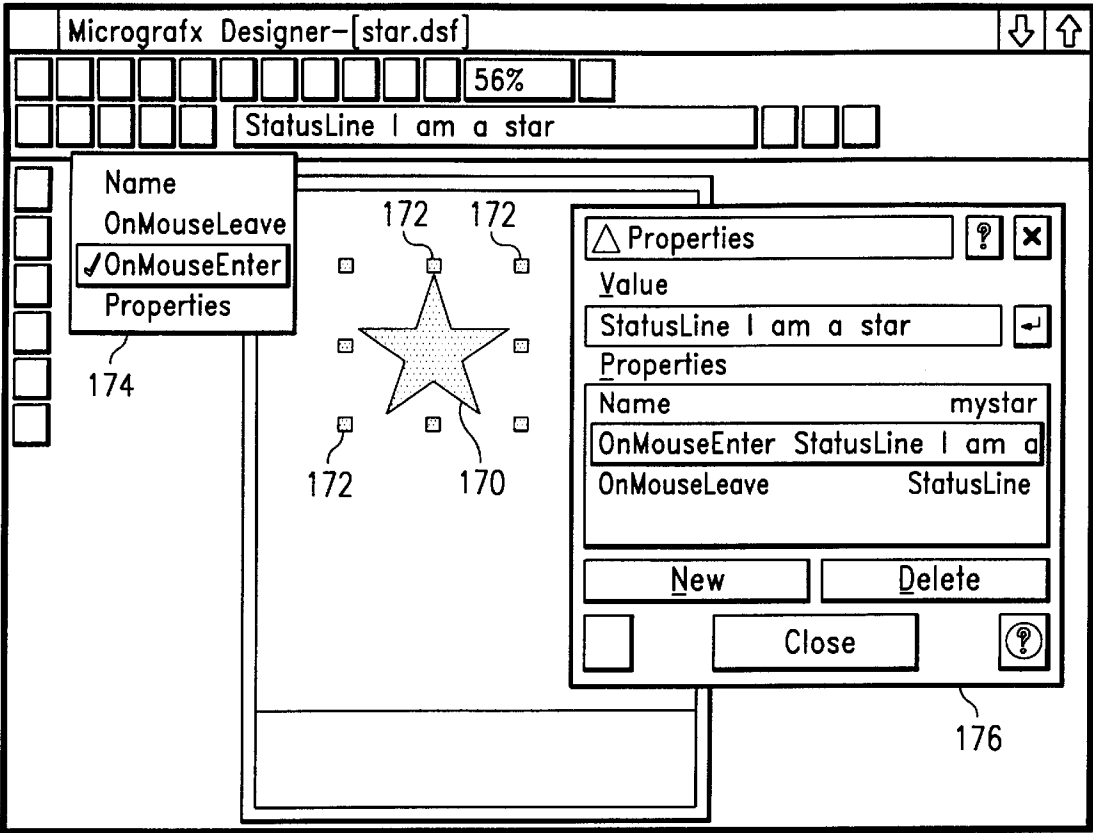*FIG. 1*

FIG. 2

FIG. 3
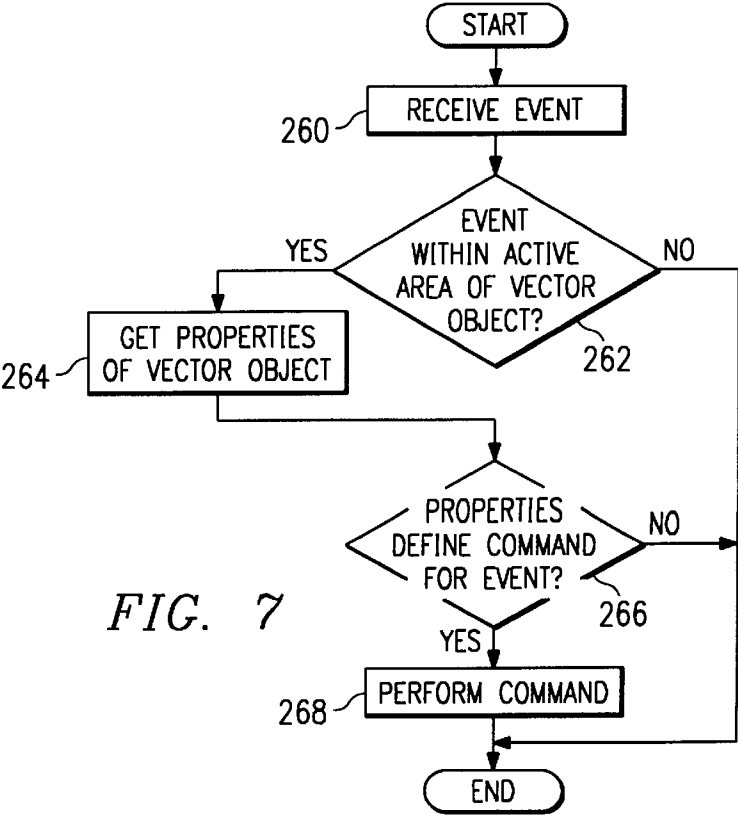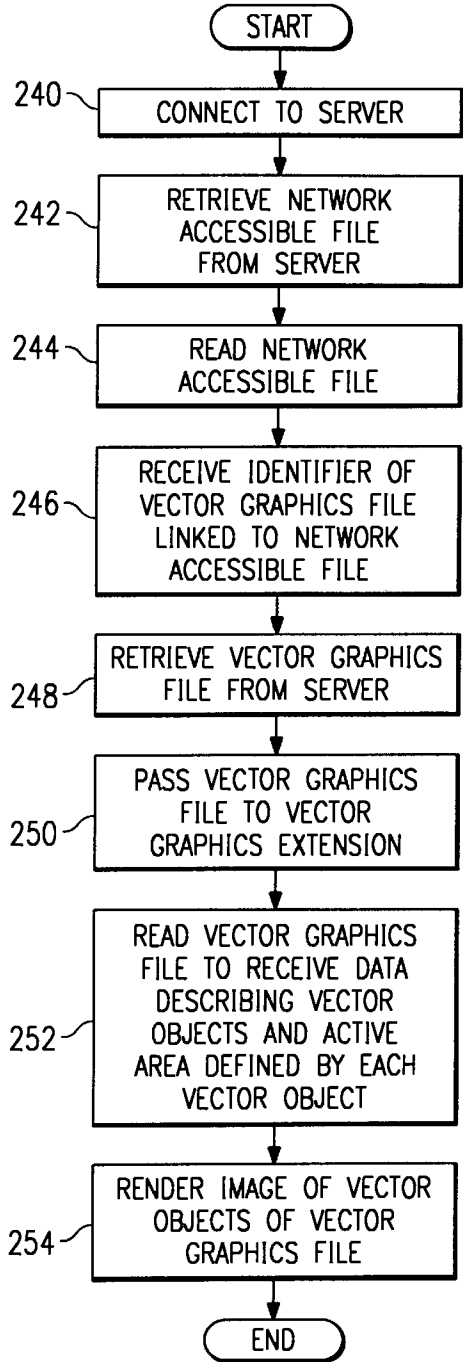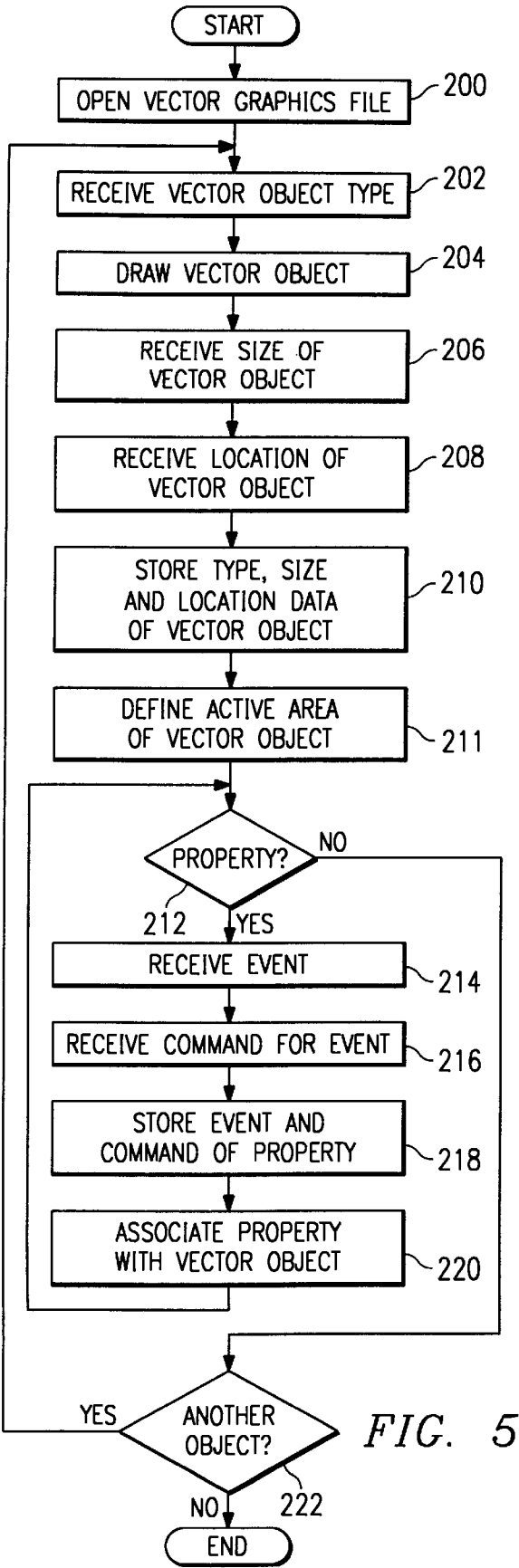
FIG. 4

FIG. 7

FIG. 5

FIG. 6
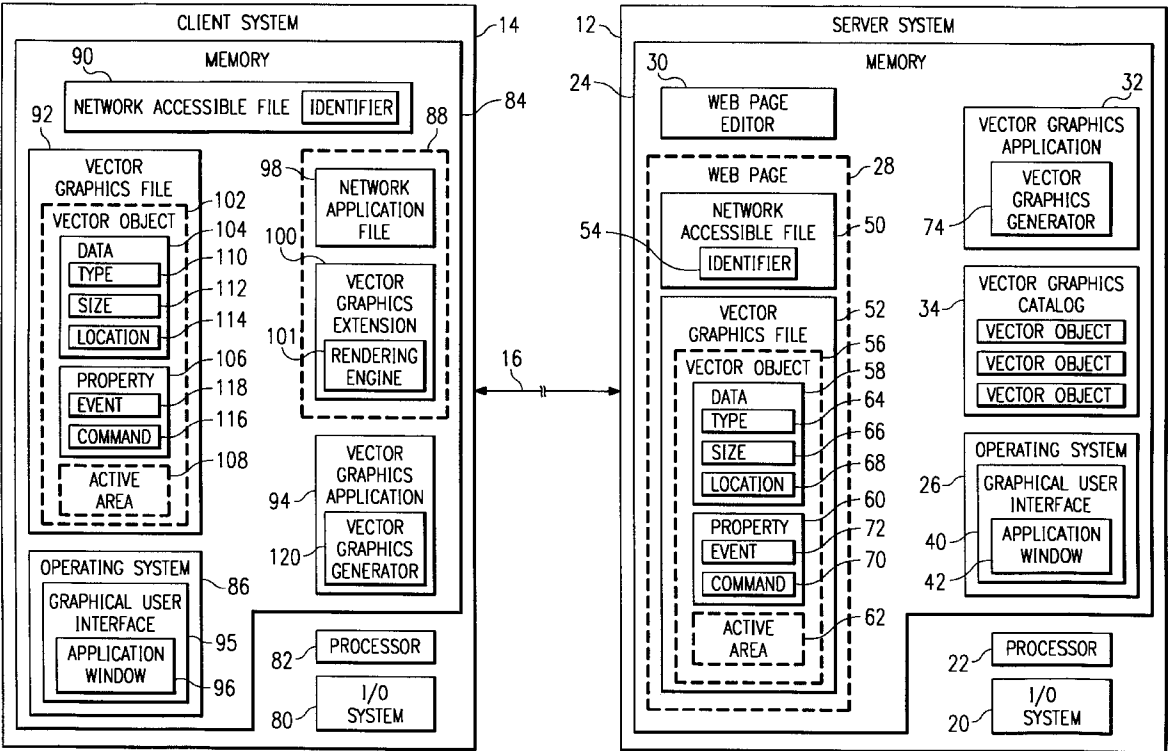
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SYSTEM AND METHOD OF PROVIDING INTERACTIVE VECTOR GRAPHICS OVER A NETWORK

RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application Serial No. 60/040,332, filed Mar. 7, 1997.

TECHNICAL FIELD OF THE INVENTION

This invention relates generally to the field of computer graphics, and more particularly to a system and method of providing interactive vector graphics over a network.

BACKGROUND OF THE INVENTION

Web pages are well known for providing graphics and associated information over the Internet. A Web page generally includes an HTML file with embedded bit mapped graphics. The HTML file may be created and bit mapped graphics embedded in the file using an HTML editor. Generally described, bit mapped graphics are computer graphics stored as collections of bits in memory locations corresponding to pixels on the screen. Thus, images are treated as a collection of dots. As a result, bit mapped graphics files are generally large and take a relatively long amount of time to download over the Internet. Additionally, the bit mapped graphics are static and device dependent.

A hot spots editor may be used to generate hot spots for a graphic. A hot spot associates an action with a defined area of the graphic. For Web pages, such actions may include changing a browser status line or jumping to another Web page in response to a user click in the defined area. The hot spot editor approach is inflexible in that only rectangular hot spots can generally be defined. This becomes significant in certain applications such as maps where the regions are too complicated to describe using simple rectangles.

SUMMARY OF THE INVENTION

Accordingly, a need has arisen in the art for improved network graphics. The present invention provides interactive vector graphics that substantially reduce or eliminate disadvantages and problems associated with prior network graphics.

In accordance with the present invention, an interactive vector object operable to be downloaded over a network may comprise data to render an image of the vector object and an active area defined by the vector object. A vector graphics network file may in connection with the data render the image of the vector object on a client system connectable to the network.

More specifically, in accordance with one embodiment of the present invention, the data may comprise a type, a sizes, and a location of the vector object. In this embodiment, the active area may be defined by the type, size, and location of the vector object. The vector object may include a property defining a command to be performed in response to an event within the active area of the vector object. In this embodiment, the command may be operable to alter the image of the vector object on the client system. The vector graphics network file may comprise a vector graphics extension of the client system.

In accordance with another aspect of the present invention, a system to provide interactive vector graphics over a network may comprise a server system and a client system. The server system may include a network accessible file and a vector graphics file comprising the interactive

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vector object. In this embodiment, the vector graphics file may be linked to the network accessible file. The client system may include a network application file to connect to the server over the network to retrieve the network accessible file. The network application file may read the network accessible file and retrieve the linked vector graphics file. A vector graphics extension may read the data to render the image of the vector object. The network accessible file may be an HTML file. The network application file may be an Internet browser.

Important technical advantages of the present invention include providing improved network graphics. In particular, vector objects containing mathematical descriptions of lines, curves, fills, and patterns are used as graphics to be downloaded over a network. The vector objects require less memory space and thus can be downloaded faster. Additionally, the vector objects may be scaled without image degradation.

Another technical advantage of the present invention includes providing interactive network graphics. In particular, active areas may be defined by the vector objects. Thus, the active areas need not be separately defined. The active areas may conform to an image of the vector object. Accordingly, an image may be easily made to respond to user-initiated events and to perform specified actions. Additionally, the vector objects may be downloaded, cached and displayed at different sizes on the same or different Web pages or otherwise modified.

Still another technical advantage of the present invention includes providing device independent network graphics. In particular, vector graphics are scaled to the correct size when downloaded and display the maximum number of colors supported by the client system. Thus, the appearance of the graphics may be maximized on all client systems.

Other technical advantages will be readily apparent to one skilled in the art from the following figures, descriptions, and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and its advantages thereof, reference is now made to the following brief description, taken in conjunction with the accompanying drawings and detailed description, wherein like reference numerals represent like parts, in which:

FIG. 1 is a schematic diagram illustrating a client system and a server system connected via the Internet in accordance with one embodiment of the present invention;

FIG. 2 is a schematic block diagram illustrating systems of the client and server systems of FIG. 1 in accordance with one embodiment of the present invention;

FIG. 3 is a flow diagram from a user's perspective illustrating a process of creating a vector graphics file in accordance with one embodiment of the present invention;

FIG. 4 illustrates a dialog box for defining properties of a vector object in accordance with one embodiment of the present invention;

FIG. 5 is a flow diagram illustrating a method of generating a vector graphics file in accordance with one embodiment of the present invention;

FIG. 6 is a flow diagram illustrating a method of downloading a vector graphics file and rendering vector objects in accordance with one embodiment of the present invention; and

FIG. 7 is a flow diagram illustrating a method of processing events of the vector objects in accordance with one embodiment of the present invention.

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DETAILED DESCRIPTION OF THE INVENTION

The preferred embodiments of the present invention and its advantages are best understood by referring now in more detail to FIGS. 1–7 of the drawings, in which like numerals refer to like parts throughout the several views. FIGS. 1–7 illustrate a system and method of providing graphics over a network. As described in more detail below, the system and method employs interactive vector graphics that may be efficiently downloaded to a client system. On the client system, the vector graphics may be scaled, stored, manipulated and even modified. Accordingly, the interactive vector graphics system and method substantially improve network graphics.

FIG. 1 illustrates a network interconnection 10 including a server system 12 connected to a client system 14 by a network 16. The server system 12 may be a computer such as a personal computer, file server, workstation, minicomputer, mainframe or any other computer capable of communicating and interconnecting with other computers. As described in more detail below, the server system 12 may include an input/output system, processor, and memory. The input/output system may connect the network 16 and other input and output devices to the server system 12. The network 16 may be directly connected to the server system 12 or may be connected through a data transmission device such as a modem or the like. The input devices may include a pointing device such as a mouse or trackpad, a keyboard, or the like. The output devices may include a monitor, a printer, or the like.

The client system 14 may be similar to the server system 12 and may be implemented using virtually any type of computer. As described in more detail below, the client system 12 is preferably a personal computer having an input/output system, a processor, and a memory. As previously described for the server system 12, the input/output system may connect the network 16 and other input and output devices to the client system 14.

The network 16 may include a plurality of communication lines 18 between the server system 12 and a plurality of clients such as the client system 14. The communication lines 18 may also connect the server system 12 to other server systems. In this manner, the server systems provide a connection to other server systems on the network 16 through the communication lines 18. Thus, a plurality of server systems may be disposed between the client system 14 and the server system 12 along communication lines 18.

Communication lines 18 may be any type of communication link capable of supporting data transfer. In one embodiment, the communication lines 18 may include any combination of an Integrated Services Digital Network (ISDN) communication line, a hardwire line, or a telephone link. It will be understood that the communication lines 18 may comprise other types of links within the scope of the present invention.

In one embodiment, the network 16 may be the Internet. In this embodiment, the server system 12 may be remote from the client system 14 and located anywhere in the world. Generally described, the client system 14 may communicate with the server system 12 using a Web browser application program that provides an address or URL of an Internet Web page stored on the server system 12. The client system 14 may access the server system 12 through a plurality of other server systems using HTTP and providing the URL to the other server systems. Eventually, the server system 12 is found and in response transmits the Internet Web page to the client system 14.

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Although the network 16 is illustrated and described in FIG. 1 as the Internet, the network 16 may be any interconnection found on any computer network such as a local area network (LAN), a wide area network (WAN), an intranet, such as a corporate intranet, or any other communications and data exchange systems created by connecting two or more computers. For the convenience of the reader, the network 16 will be illustrated and described as the Internet. However, it should be understood that the present invention is not limited to network implementations using the Internet.

FIG. 2 illustrates a block diagram of the server system 12 and client system 14 in accordance with one embodiment of the present invention. The server system 12 may comprise an input/output system 20, a processor 22 and memory 24. As previously described, the input/output system 20 may connect the network 16 and other input and output devices to the server system 12. The network 16 may be directly connected to the server system 12 or may be connected through a data transmission device such as a modem or the like. Input devices may include a pointing device such as a mouse or trackpad, a keyboard, and the like. Output devices may include a monitor, a printer, and the like.

The server system 12 includes computer software that may be loaded into the memory 24 and executed by the processor 22. The computer software may generally be identified by modules and similar systems in memory 24. It will be understood that the computer software may be otherwise combined and/or divided for processing within the scope of the present invention. Accordingly, the labels of the modules and other software systems are for illustrative purposes and may be varied within the scope of the present invention.

The computer software may be loaded into memory 24 from disk storage (not shown). Disk storage may include a variety of types of storage media. For example, disk storage may include floppy disk drives, hard disk drives, CD/ROM drives, or magnetic tape drives.

Memory 24 may include an operating system 26, a Web page 28, a Web page editor 30, a vector graphics application 32, and a vector graphics catalog 34. The operating system 26 may include a graphical user interface (GUI) 40 capable of generating a plurality of application windows 42. The operating system 26 may be MacIntosh OS, WINDOWS NT, WINDOWS 95, OS/2, or any other operating system capable of providing a graphical user interface.

The Web page 28 may comprise a network accessible file 50 and a vector graphics file 52. The network accessible file 50 may include an identifier 54 linking the vector graphics file 52 to the network accessible file 50. Accordingly, the vector graphics 52 may be embedded in the network accessible file 50.

The network accessible file 50 is generally formatted to fit the environment in which it will be used. In one embodiment, the network accessible file 50 may be a Hypertext Markup Language (HTML) file conventionally used on the Internet. It will be understood that the network accessible file 50 may be otherwise formatted within the scope of the present invention.

In accordance with the present invention, the vector graphics file 52 may contain some or all graphics of the Web page 28. Accordingly, Web page graphics may be created and stored independently of the network accessible file 50. Moreover, as described in more detail below, the vector graphics file 52 provides interactive graphics that require less memory and therefore can be efficiently downloaded over the network 16 to the client system 14. On the client

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system **14**, the vector graphics may be scaled without image degradation, otherwise modified, and used interactively.

As described in more detail below, the vector graphics file **52** is a drawing file that can be modified and downloaded. The vector graphics file **52** may comprise one or more vector objects **56**. In one embodiment, the vector objects **56** may comprise data **58**, one or more properties **60**, and an active area **62**. The data **58** may be operable in connection with a vector graphics network file to render an image of the vector object **56** on the client system **14**. The data **58** may comprise a type **64**, a size **66** and a location **68** of the vector object **56** in the Web page **28**. It will be understood that the data **58** may include other characteristics such as color of the vector object **56**.

The property **60** may define a command **70** to be performed in response to an event **72** within the active area **62** of the vector object **56**. In one embodiment, the commands may include Jump, In Place Jump, Status Line, Cursor Shape, Object Color, Object Text, Move Over, Hide Object, and Show Object. The Jump command may instruct a browser to load and display a newly specified URL. The In Place Jump may instruct a plug-in to discard its contents and display a newly specified drawing. The Status Line command may display a text string in a browser status bar. The Cursor Shape command may set the shape of a cursor on a monitor. The Object Color command may set an interior-fill color of the vector object **56** to a specified color. The Object Text command may set text of the vector object **56** to a specified text. The Move Over command may move a center of the vector object **56** to a specified position. The Hide Object and Show Object commands may hide or show the vector object **56**. It will be understood that the commands may carry out other functions within the scope of the present invention.

The events may be user-initiated events. In this embodiment, the events may be On Mouse Enter, On Mouse Leave, On Mouse Down, On Mouse Up, and On Load. The On Mouse Enter event may be initiated when a mouse pointer is moved over an image of a vector object **56**. The On Mouse Leave event may be initiated when a mouse pointer is moved away from the image of the vector object **56**. The On Mouse Down event may be initiated when a mouse button is depressed while over the image of the vector object **56**. The On Mouse Up event may be initiated when the mouse button is released while over the image of the vector object **56**. The On Load event may be initiated when the vector graphics file **52** containing the vector object **56** is open. It will be understood that other events may be used to initiate commands within the scope of the present invention.

The active area **62** may be defined by the vector object **56**. In one embodiment, the active area **62** may conform to the image of the vector object **56**. In this embodiment, the active area **62** may be defined by the type **64**, size **66** and location **68** of the vector object **56**. It will be understood that the active area **62** may be otherwise defined by the vector object **56**. For example, the active area **62** may be defined by an upper, lower, central, exterior or other portion of the vector object **56**.

The Web page editor **30** may generate the network accessible file **50** of the Web page **28**. Accordingly, for the Internet embodiment of the network **16**, the Web page editor **30** may be an HTML editor. It will be understood that the Web page editor **30** may generate other configurations of the network accessible file **50** in other network configurations within the scope of the present invention.

The vector graphics application **32** may generate the vector graphics file **52**. The vector graphics application **32**

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may include a vector graphics generator **74** to generate and modify the vector object **56**. In one embodiment, the vector graphics application **32** may be Micrografx DESIGNER, manufactured by Micrografx, Inc. of Richardson, Tex., the assignee of the present application. In this embodiment, the server system **12** should be configured to report MIME types of DRW, DS4, and DSF file formats used by Micrografx DESIGNER. It will be understood that other commercial drawing programs capable of generating vector graphics may be used as the vector graphics application **32** and that the server system **12** may be otherwise configured in connection with other vector graphics applications **32** within the scope of the present invention.

The vector graphics catalog **34** may comprise a series of vector objects **76** previously generated by the vector graphics application **32**. As previously described for vector objects **56**, the vector objects **76** may include data, properties and an active area. Accordingly, the vector graphics catalog **34** allows vector objects **76** to be created and stored along with their properties for later use in generating Web pages.

The client system **14** may comprise an input/output system **80**, a processor **82** and memory **84**. As previously described in connection with the input/output system **20**, the input/output system **80** may connect the network **16** and other input and output devices to the client system **14**. The network **16** may be directly connected to the client system **14** or may be connected through a data transmission device such as a modem or the like. Input devices may include a pointing device such as a mouse or trackpad, a keyboard, and the like. Output devices may include a monitor, a printer, and the like.

The client system **14** includes computer software that may be loaded and/or downloaded into memory **84** and executed by the processor **82**. The computer software may generally be identified by modules and similar systems in memory **84**. It will be understood that the computer software may be otherwise combined and/or divided for processing within the scope of the present invention. Accordingly, the labels of the modules and other software systems are for illustrative purposes and may be varied within the scope of the present invention.

As previously described in connection with memory **24**, computer software may be loaded into memory **84** from disk storage (not shown). Disks storage may include a variety of types of storage media. For example, disk storage may include floppy disk drives, hard disk drives, CD/ROM drives, or magnetic tape drives.

Memory **84** may include an operating system **86**, a vector graphics network file **88**, a network accessible file **90**, a vector graphics file **92** and a vector graphics application **94**. The operating system **86** may include a graphical user interface (GUI) **95** capable of generating a plurality of application windows 96. The operating system **86** may be MacIntosh OS, WINDOWS NT, WINDOWS 95, OS/2, or any other operating system capable of providing a graphical user interface.

The vector graphics network file **88** may be operable to connect to the server system **12** over the network **16** and retrieve the vector graphics file **52**. The retrieved vector graphics file **52** may be stored in memory **84** on the client system **14** as the vector graphics file **92**. In one embodiment, the vector graphics network file **88** may comprise a network application file **98** and a vector graphics extension **100**. The vector graphics extension **100** may be separated from the network application file **98** to allow vector graphics capa-

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bilities to be updated and/or replaced independently of the network application file **98**. In this embodiment, the network application file **98** may retrieve the vector graphics file **52** by retrieving the network accessible file **50**. The retrieved network accessible file **50** may be stored in memory **84** on the client system **14** as the network accessible file **90**. The network accessible file **90** may then be read by the network application file **98** and the linked vector graphics file **52** identified and retrieved.

In one embodiment, the network application file **98** may be an Internet browser. The Internet browser may be Netscape NAVIGATOR, Microsoft INTERNET EXPLORER or other commercially available Internet browsers. It will be understood that the network application file **98** may be formatted to connect and retrieve files over other types of networks **16** within the scope of the present invention.

The vector graphics extension **100** should be compatible with the vector graphics application **32** that generates the vector graphics file **52** from which the vector graphics file **92** is copied. In this manner, the network application file **98** may call the vector graphics extension **100** to process the vector graphics file **92**. When called, the vector graphics extension **100** may respond to the network application file **98** and issue commands back to the network application file **98**. For example, the vector graphics extension **100** may issue event initiated commands of a vector object to the network application file **98**.

In one embodiment, the vector graphics extension **100** may include a rendering engine **101**. In this embodiment, the rendering engine **101** may be operable to read the vector graphics file **92**, render images of vector objects, and print the images of the vector objects. The rendering engine **101** may generate vector graphics "on the fly." Accordingly, the graphics may be updated without resort to the server system **12**. It will be understood that the rendering engine **101** may have other capabilities within the scope of the present invention.

In one embodiment, the vector graphics extension **100** may be Micrografx QUICKSILVER, manufactured by Micrografx, Inc. of Richardson, Tex., the assignee of the present application. Micrografx QUICKSILVER is fully compatible with Micrografx DESIGNER, which may be used as the vector graphics application **32**. It will be understood that other types of vector graphics extensions **100** capable of processing vector graphics may be used within the scope of the present invention.

As previously discussed, the vector graphics file **92** may be a copy of the vector graphics file **52** downloaded over the network **16** by the network application file **98**. Accordingly, as previously described in connection with the vector graphics file **52**, the vector graphics file **92** may comprise one or more vector objects **102**. In one embodiment, the vector objects **102** may comprise data **104**, one or more properties **106**, and an active area **108**. The data **104** may be operable in connection with the vector graphics network file **98** to render an image of the vector object **102** on the client system **14**. The image may be rendered on a monitor or the like. The data **104** may comprise a type **110**, a size **112** and a location **114** of the vector object **102** in the displayed Web page. It will be understood that the data **104** may include other characteristics such as color of the vector object **104**.

The property **106** may define a command **116** to be performed in response to an event **118** within the active area **108** of the vector object **102**. Accordingly, the vector objects **102** detect and respond to events on the client system **14**.

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The commands **116** and events **118** may be as previously described in connection with the commands **70** and events **72**. It will be understood that the commands **116** and events **118** may carry out other functions within the scope of the present invention.

The active area **108** may be defined by the vector object **102**. In one embodiment, as previously described in connection with the active area **62**, the active area **108** may conform to the image of the vector object **102**. In this embodiment, the active area **108** may be defined by the type **110**, size **112**, and location **114** of the vector object **102**. It will be understood that the active area **108** may be otherwise defined by the vector object **102**. For example, the active area **108** may be defined by an upper, lower, central, exterior or other portion of the vector object **102**.

The vector graphics application **94** may be used to modify the vector graphics file **92**. To this end, the vector graphics application **94** should be compatible with the vector graphics file **92**. The vector graphics application **94** may include a vector graphics generator **120** to modify the vector object **102**. In one embodiment, the vector graphics application **94** may be Micrografx DESIGNER, manufactured by Micrografx, Inc. of Richardson, Tex., the assignee of the present application. It will be understood that other commercial drawing programs capable of modifying vector graphics may be used as the vector graphics application **94** within the scope of the present invention.

FIG. **3** illustrates a flow diagram by which a user may utilize the vector graphics application **32** of the server system **12** to generate the vector graphics file **52**. The process begins at step **150** in which the user invokes the vector graphics application **32**. In response, as described in more detail below, the vector graphics application **32** may open the vector graphics file **52** in the application window **42** of the graphical user interface (GUI) **40** of the operating system **26**.

Proceeding to step **152**, the user may input a vector object type. Preferably, types of vector objects may be selected from a list displayed in a drop-down menu or the like. Types of vector objects may include squares, rectangles, circles, stars, triangles, ellipses and any other shape that may be described by a series of vectors. As shown by FIG. **4** and described in more detail below, the vector graphics application **32** may draw the selected vector object **170** in the application window **42** for viewing and manipulation by the user. For the embodiment of FIG. **4**, the selected vector object **170** is a star.

At step **154**, the user may input a vector object size. Preferably, the vector object size may be inputted by scaling the drawn vector object **170**. As shown by FIG. **4**, the drawn vector object **170** may be conventionally sized by using sizing points **172** located around the perimeter of the vector object **170**. Accordingly, the user may view the vector object **170** while determining the desired size of the vector object **170**.

Next, at step **156**, the user may input a vector object location. Preferably, the vector object located is inputted by dragging the vector object **170** to its desired position in the vector graphics file **52**. Accordingly, the user may view the vector object **170** while determining the desired location of the vector object **170**. Step **156** leads to decisional step **158**.

At decisional step **158**, the user may select to add a property to the vector object **170**. If the user selects to add a property to the vector object **170**, the YES branch of decisional step **158** leads to step **160**. At step **160**, the user may input an event of the property. The event may be as

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previously described in connection with FIG. 2. Preferably, as shown by FIG. 4, the event may be selected from a list of events displayed in a drop-down menu 174. It will be understood that the events may be otherwise inputted within the scope of the present invention.

At step 162, the user may input a command for the event. The commands may be as previously described in connection with FIG. 2. Preferably, the commands may be selected from a list displayed in a pull-down menu or the like. As shown by FIG. 4, properties defined for the drawn vector object 170 may be displayed in a dialog box 176.

Step 162 returns to decisional step 158 where the user may select to add another property to the vector object 170. If another property is to be added, the YES branch of decisional step 158 again leads to step 160 and the cycle is repeated until no further properties are to be added to the vector object 170. When no properties or no further properties are to be added to the vector object 170, the NO branch of decisional step 158 leads to decisional step 164.

At decisional step 164, the user may select to add another object to the vector graphics file 52. If another vector object is selected to be added to the vector graphics file 52, the YES branch of decisional step 164 returns to step 152 where the user may input the type of the next vector object. Thereafter, as previously described, the user may size, locate and define properties of that vector object. When no further objects are to be added to the vector graphics file 52, the NO branch of decisional step 164 leads to the end of the process.

FIG. 5 illustrates a flow diagram of generating the vector graphics file 52 in accordance with one embodiment of the present invention. The process begins at step 200 where the vector graphics application 32 may open the vector graphics file 52. As previously described, the vector graphics file 52 may be opened in response to the vector graphics application 32 being invoked by the user.

Next, at step 202, the vector graphics file 52 may receive a vector object type. The vector object type may be received by the selection of the user from a list displayed in a drop-down menu or the like. At step 204, as shown by FIG. 4, the vector graphics file 52 may draw the selected vector object 170. As previously described, this allows the user to view the vector object 170 while sizing and locating the vector object 170 in the vector graphics file 52.

Proceeding to step 206, the vector graphics file 52 may receive the size of the vector object 170. The size may be received by the scaling of the vector object 170 by the user. At step 208, vector graphics file 52 may receive the location of the vector object 170. The location of the vector object 170 may be received by receiving a drag and drop of the vector object 170 by the user.

Next, At step 210, the vector graphics file 52 may store the type, size, and location data of the vector object 170. In one embodiment, the data of each vector object 170 may be stored in a table of the vector graphics file 52. It will be understood that other data describing the vector object 170 may be received and stored for the vector object 170. For example, color of the vector object 170 may be received and stored along with the type, size, and location of the vector object 170.

Proceeding to step 211, an active area of the vector object 170 may be defined. As previously discussed, the active area may conform to the image of the vector object 170. In this embodiment, the active area may be defined by the type, size, and location of the vector object 170. It will be understood that the active area may be otherwise defined by the vector object 170. For example, the active area may be

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defined by an upper, lower, central, exterior or other portion of the vector object 170. Step 211 leads to decisional step 212.

At decisional step 212, it is determined if a property is to be added to the vector object 170. A property may be added to vector object 170 when a selection is received from the user. If a property is to be added to the vector object 170, the YES branch of decisional step 212 leads to step 214. At step 214, the vector graphics file 52 may receive an event of the property. The event may be received by a selection from the user. The event may be as previously described in connection with FIG. 2.

Next, at step 216, the vector graphics file 52 may receive a command for the event. The command may be received by a selection from the user. The command may be as previously described in connection with FIG. 2. Continuing to step 218, the vector graphics file 52 may store the event and the command of the property. At step 220, the property may be associated with the vector object 170.

Step 220 returns to decisional step 212 where it is determined if another property is to be added to the vector object 170. Another property may be added to the vector object 170 when the user selects to add another property. If another property is to be added, the YES branch of decisional step 212 again leads to step 214 and the cycle is repeated until no further properties are to be added to the vector object 170. When no properties or no further properties are to be added to the vector object 170, the NO branch of decisional step 212 leads to decisional step 222.

At decisional step 222, it is determined if another vector object is to be added to the vector graphics file 52. Another vector object may be added to the vector graphics file 52 when the user selects to add another vector object. If another vector object is to be added to the vector graphics file 52, the YES branch of decisional step 222 returns to step 202 where a vector object type of the next vector object may be received. Thereafter, as previously described, the vector graphics file 52 may draw the vector object, receive size and location data of the vector object, store the type, size, and location data of the vector object, and associated properties of the vector object. When no further vector objects are to be added to the vector graphics file 52, the NO branch of decisional step 222 leads to the end of the process.

Accordingly, the vector graphics file 52 comprises vector objects containing mathematical descriptions of lines, curves, fills, and patterns. At this point, the vector graphics file 52 may be embedded in the network accessible file 50 for use in Web page 28 of the server system 12. As described in more detail below, the vector objects require less memory space than conventional graphics and thus can be downloaded faster. Additionally, the vector objects may be scaled on a client system without image degradation.

FIG. 6 illustrates a flow diagram of downloading the vector graphics file 52 from the server system 12 to the client system 14 over the network 16 in accordance with one embodiment of the present invention. The process begins at step 240 where the network application file 98 of the client system 14 may connect to server system 12 over the network 16. As previously described, the network application file 98 may be an Internet browser. The Internet browser may be operable to search, locate and download Web pages of server systems connected to the network 16.

Next, at step 242, the network application file 98 may retrieve the network accessible file 50. In the Internet embodiment, the network accessible file 50 may be an HTML file of the Web page 28. As previously described, the

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retrieved network accessible file **50** may be stored in memory **84** on the client system **14** as the network accessible file **90**.

Proceeding to step **244**, the network application file **98** may read the network accessible file **90**. At step **246**, the network application file **98** may receive the identifier linking the vector graphics file **52** to the network accessible file **90**. In response, at step **248**, the network application file **98** may retrieve the vector graphics file **52** from the server system **12**. As previously described, the retrieved vector graphics file **52** may be stored in memory **84** of the client system **14** as the vector graphics file **92**. At step **250**, the network application file **98** may pass the vector graphics file **92** to the vector graphics extension **100** for processing.

Proceeding to step **252**, the vector graphics extension **100** may read the vector graphics file **92** to receive data describing the vector object **102** and the active area **108** defined by the vector object **102**. At step **254**, the vector graphics extension **100** may render an image of the vector object **102**. Step **254** leads to the end of the process.

Accordingly, the vector graphic file comprising vector objects may be downloaded from the server system to the client system over the network. Because the vector objects require less memory space than conventional graphics, the vector graphics files may be downloaded faster. Additionally, the vector objects may be cashed and displayed at different sizes on the same or different Web pages and otherwise modified. As previously described, the downloaded vector objects may be modified using the vector graphics application **94** of the client system **14**. Moreover, the vector graphics are device independent. Accordingly, the vector graphics are scaled to the correct size when downloaded and display the maximum number of colors supported by the client system. Thus, the appearance of the graphics are maximized on all client systems.

FIG. **7** illustrates a flow diagram of processing events for vector objects of the client system **14**. The process begins at step **260** where an event is received by the vector graphics extension **100**. The event may be initiated by a user and received by the vector graphics extension **100** through the graphical user interface (GUI) **95** of the operating system **86**. The event may be as previously described in connection with FIG. **2**.

Next, at decisional step **262**, the vector graphics extension **100** may determine if the event occurred within the active area **108** of the vector object **102**. As previously described, the active area **108** may conform to the image of the vector object **102**. In one embodiment, the vector graphics extension **100** may employ a rectangular box around the vector object **102** for trivial rejection in determining if an event occurred within the active area **108** of the vector object **102**. In this embodiment, if the event occurred within the rectangular box, the vector graphics extension **100** may employ odd crossing techniques to determine if the event occurred within the active area of the vector object **102**. It will be understood that other well known techniques may be used to determine if the event occurred within the active area of the vector object **102**.

If the event did not occur within the active area **108** of the vector object **102**, the NO branch of decisional step **262** leads to the end of the process. If the event occurred within the active area **108** of the vector object **102**, the YES branch of decisional step **262** leads to step **264**. At step **264**, the vector graphics extension **100** may get the properties **106** of the vector object **102**.

Proceeding to decisional step **266**, it may be determined if the properties **106** define a command **116** for the event. If

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no command **116** is defined for the event, the NO branch of decisional step **266** leads to the end of the process. If the properties **106** define a command **116** for the event, the YES branch of decisional step **266** leads to step **268**. At step **268**, the vector graphics extension **100** may perform the command **116** defined for the event. Step **268** leads to the end of the process.

Accordingly, an interactive vector object may be generated on the server system and downloaded over the network to the client system. Moreover, the interactive vector objects include active areas defined by the vector objects. Thus, the active areas need not be separately defined. The active areas may conform to an image of the vector object. Accordingly, an image may be easily made to respond to user-initiated events and to perform specified actions.

Although the present invention has been described with several embodiments, various changes and modifications may be suggested to one skilled in the art. It is intended that the present invention encompass such changes and modifications as fall within the scope of the appended claims.

What is claimed is:

1. An interactive vector object stored on a computer readable medium and operable to be downloaded over a network comprising:

    data operable to be downloaded to a client system connectable to the network and in connection with a vector graphics network file to render an image of the vector object on the client system;

    an active area defined by the vector object; and

    a property defining a command to be performed in response to an event within the active area of the vector object.

2. The interactive vector object of claim **1**, further comprising the active area conforming to the image of the vector object.

3. The interactive vector object of claim **1**, the data further comprising a type, a size, and a location of the vector object.

4. The interactive vector object of claim **3**, further comprising the active area defined by the type, size, and location of the vector object.

5. The interactive vector object of claim **1**, further comprising the command operable to alter the image of the vector object on the client system.

6. The interactive vector object of claim **1**, further comprising the command operable to reshape the image of the vector object on the client system.

7. The interactive vector object of claim **1**, further comprising the command operable to recolor the image of the vector object on the client system.

8. The interactive vector object of claim **1**, the vector graphics network file further comprising a vector graphics extension operable to render the image of the vector object on the client system.

9. The interactive vector object of claim **1**, further comprising the data in connection with the vector graphics network file operable to render the image of the vector object within a window of a graphical user interface of the client system.

10. A server system operable to provide interactive vector graphics stored on a computer readable medium over a network, comprising:

    a vector graphics file operable to be downloaded to a client system connectable to the network;

    the vector graphics file comprising an interactive vector object, the vector object comprising:

        data operable in connection with a vector graphics network file to render an image of the vector object on the client system;

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an active area defined by the vector object; and
  a property defining a command be performed in response to an event within the active area of the vector object.

11. The server system of claim 10, further comprising the active area conforming to image of the vector object.

12. The server system of claim 10, the data further comprising a type, a size, and a location of the vector object.

13. The server system of claim 12, further comprising the active area defined by the type, size, and location of the vector object.

14. The server system of claim 10, further comprising the command operable to alter the image of the vector object on the client system.

15. The server system of claim 10, further comprising the command operable to reshape the image of the vector object on the client system.

16. The server system of claim 10, further comprising the command operable to recolor the image of the vector object on the client system.

17. The server system of claim 10, the vector graphics network file further comprising a vector graphics extension operable to render the image of the vector object on the client system.

18. The server system of claim 10, further comprising the data in connection with the vector graphics network file operable to render the image of the vector object within a window of a graphical user interface of the client system.

19. The server system of claim 10, the vector graphics file further comprising a plurality of vector objects.

20. The server system of claim 10, further comprising:
  a network accessible file operable to be downloaded over the network; and
  the network accessible file including an identifier linking the vector graphics file to the network accessible file.

21. The server system of claim 20, the network accessible file further comprising a HTML file.

22. The server system of claim 20, wherein the vector graphics file is embedded in the network accessible file.

23. A Web page stored on a computer readable medium, the Web page comprising:
  an HTML file operable to be downloaded over a network;
  a vector graphics file linked to the HTML file;
  the vector graphics file operable to be downloaded to a client system connectable to the network;
  the vector graphics file comprising an interactive vector object, the vector object comprising:
    data operable in connection with a vector graphics network file to render an image of the vector object on the client system;
    an active area defined by the vector object; and
    a property defining a command be performed in response to an event within the active area of the vector object.

24. The Web page of claim 23, further comprising the active area conforming to the image of the vector object.

25. The Web page of claim 23, the data further comprising a type, a size, and a location of the vector object.

26. The Web page of claim 25, further comprising the active area defined by the type, size, and location of the vector object.

27. The Web page of claim 23, further comprising the command operable to alter the image of the vector object on the client system.

28. The Web page of claim 23, further comprising the command operable to reshape the image of the vector object on the client system.

29. The Web page of claim 23, further comprising the command operable to recolor the image of the vector object on the client system.

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30. The Web page of claim 23, the vector graphics network file further comprising a vector graphics extension operable to render the image of the vector object on the client system.

31. The Web page of claim 23, further comprising the data in connection with the vector graphics network file operable to render the image of the vector object within a window of a graphical user interface of the client system.

32. The Web page of claim 23, the vector graphics file further comprising a plurality of interactive vector objects.

33. A system operable to provide interactive vector graphics over a network, comprising:
  a server system, comprising:
    a network accessible file,
    a vector graphics file linked to the network accessible file;
    the vector graphics file comprising an interactive vector object, the vector object comprising:
    data describing the vector object;
    an active area defined by the vector object;
    a property defining a command to be performed in response to an event within the active area of the vector object;
  a client system, comprising:
    a network application file operable to connect to the server over the network to retrieve the network accessible file;
    the network application file operable to read the network accessible file and retrieve the linked vector graphics file; and
    a vector graphics extension operable to read the data to render an image of the vector object.

34. The system of claim 33, further comprising the active area conforming to the image of the vector object.

35. The system of claim 33, the data further comprising a type, a size, and a location of the vector object.

36. The system of claim 35, further comprising the active area defined by the type, size, and location of the vector object.

37. The system of claim 33, the network accessible file further comprising an HTML file.

38. The system of claim 33, the network application file further comprising an Internet browser.

39. The system of claim 33, the server system further comprising a vector graphics application operable to generate the vector graphics file.

40. The system of claim 33, the client system further comprising a vector graphics application operable to modify the vector graphics file.

41. The system of claim 33, the client system further comprising:
  a graphical user interface having a window; and
  the vector graphics extension operable to render the image of the vector object within the window of the graphical user interface.

42. The system of claim 33, further comprising the vector graphics extension operable to perform the command in response to the event within the active area of the vector object.

43. The system of claim 33, further comprising the command operable to alter the image of the vector object on the client system.

44. A client system operable to provide interactive graphics over a network, comprising:
  a vector graphics file downloaded to the client system over the network;
  the vector graphics file comprising an interactive vector object, the vector object comprising:
    data describing the vector object;

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an active area defined by the vector object;

a property defining a command be performed in response to an event within the active area of the vector object; and

a vector graphics network file stored on a computer readable medium operable to read the data to render an image of the vector object.

45. The system of claim **44**, further comprising the active area conforming to the image of the vector object.

46. The system of claim **44**, the data further comprising a type, a size, and a location of the vector object.

47. The system of claim **46**, further comprising the active area defined by the type, size, and location of the vector object.

48. The system of claim **44**, further comprising the vector graphics network file operable to perform the command in response to the event within the active area of the vector object.

49. The system of claim **44**, further comprising the command operable to alter the image of the vector object on the client system.

50. The system of claim **44**, further comprising the command operable to reshape the image of the vector object on the client system.

51. The system of claim **44**, further comprising the command operable to recolor the image of the vector object on the client system.

52. The system of claim **44**, the vector graphics network file further comprising a vector graphics extension operable to render the image of the vector object on the client system.

53. The system of claim **44**, further comprising:

a graphical user interface having a window; and

the vector graphics network file operable to render the image of the vector object within the window of the graphical user interface.

54. The system of claim **44**, further comprising a vector graphics application operable to modify the vector graphics file downloaded over the network.

55. A vector graphics extension operable to provide interactive graphics over a network, comprising:

a rendering engine operable in connection with data describing a vector object downloaded over the network and an associated network application file to render an image of the vector object; and

the rendering engine operable to perform a command in response to an event within an active area defined by the vector object.

56. The vector graphics extension of claim **55**, further comprising the active area conforming to the image of the vector object.

57. The vector graphics extension of claim **55**, the data further comprising a type, a size, and a location of the vector object.

58. The vector graphics extension of claim **57**, further comprising the active area defined by the type, size, and location of the vector object.

59. The vector graphics extension of claim **55**, further comprising the command operable to alter the image of the vector object.

60. The vector graphics extension of claim **55**, further comprising the command operable to reshape the image of the vector object.

61. The vector graphics extension of claim **55**, further comprising the command operable to recolor the image of the vector object.

62. The vector graphics extension of claim **55**, further comprising the command operable to relocate the image of the vector object.

63. The vector graphics extension of claim **55**, further comprising the command operable to jump to a specified address of the network.

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64. A method of providing interactive vector graphics over a network, comprising the steps of:

downloading over a network to a client system a vector object, the vector object comprising:

data describing the vector object;

an active area defined by the vector object;

a property defining a command to be performed in response to an event within the active area of the vector object; and

rendering an image of the vector object on the client system.

65. The method of claim **64**, wherein the active area conforms to the image of the vector object.

66. The method of claim **64**, wherein the data comprises a type, a size, and a location of the vector object.

67. The method of claim **66**, wherein the active area is defined by the type, size, and location of the vector object.

68. The method of claim **64**, further comprising performing the command in response to the event within the active area of the vector object.

69. The method of claim **68**, wherein the step of performing the command in response to the event comprises the step of altering the image of the vector object on the client system.

70. The method of claim **68**, wherein the step of performing the command in response to the event comprises the step of reshaping the image of the vector object on the client system.

71. The method of claim **68**, wherein the step of performing the command in response to the event comprises the step of recoloring the image of the vector object on the client system.

72. The method of claim **68**, wherein the step of performing the command in response to the event comprises the step of jumping to a specified address of the network.

73. The method of claim **64**, further comprising the step of modifying the vector object downloaded over the network on the client system.

74. The method of claim **64**, wherein the step of rendering an image of the vector object comprises the step of rendering the image of the vector object within a window of a graphical user interface of the client system.

75. The method of claim **64**, wherein the network comprises an Internet connection.

76. The method of claim **64**, further comprising the steps of:

storing the vector object in a vector graphics file on a server system; and

linking the vector graphics file to a network accessible file on the server system.

77. The method of claim **76**, the step of downloading the vector object further comprising the steps of:

connecting to a server system over the network;

retrieving the network accessible file of the server system;

reading the network accessible file;

receiving from the network accessible file an identifier linking the vector graphics file to the network accessible file; and

retrieving the linked vector graphics file.

78. The method of claim **77**, wherein the network accessible file is an HTML file.

79. The method of claim **77**, the step of rendering the image of the vector object further comprising the steps of:

passing the vector graphics file to a vector graphics extension on the client system; and

reading the vector graphics file to receive data describing the vector object and an active area defined by the vector object.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 6,057,854	Page 1 of 2
APPLICATION NO.	: 08/901043	
DATED	: May 2, 2000	
INVENTOR(S)	: John R. Davis, Jr. and Scott M. Glazer	

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

Claim 1, Column 12
Lines 28-31, change "an active area defined by the vector object; and
a property defining a command to be performed in response to an event within the active area of the
vector object." to -- an active area predefined by the vector object, the active area associated with a
command to be performed in response to an event therein; and
a property defining the command to be performed in response to the event within the active area of the
vector object. --

Claim 10, Column 13
Lines 1-4, change "an active area defined by the vector object; and
a property defining a command be performed in response to an event within the active area of the
vector object." to -- an active area predefined by the vector object, the active area associated with a
command to be performed in response to an event therein; and
a property defining the command be performed in response to the event within the active area of the
vector object. --

Claim 23, Column 13
Lines 49-52, change "an active area defined by the vector object; and
a property defining a command be performed in response to an event within the active area of the
vector object." to -- an active area predefined by the vector object, the active area associated with a
command to be performed in response to an event therein; and
a property defining the command to be performed in response to the event within the active area of the
vector object. --

Signed and Sealed this
Twentieth Day of August, 2013

Teresa Stanek Rea
Acting Director of the United States Patent and Trademark Office

CERTIFICATE OF CORRECTION (continued)   Page 2 of 2

U.S. Pat. No. 6,057,854

In the Claims

Claim 33, Column 14

Lines 19-22, change "an active area defined by the vector object;

a property defining a command to be performed in response to an event within the active area of the vector object" to -- an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein;

a property defining the command to be performed in response to the event within the active area of the vector object --

Claim 44, Column 15

Lines 1-4, change "an active area defined by the vector object;

a property defining a command be performed in response to an event within the active area of the vector object; and" to -- an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein;

a property defining the command to be performed in response to the event within the active area of the vector object; and --

Claim 55, Column 15

Lines 43-44, change "an active area defined by the vector object." with -- an active area predefined by the vector object. --

Claim 64, Column 16

Lines 6-9, change "an active area defined by the vector object;

a property defining a command be performed in response to an event within the active area of the vector object; and" to -- an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein;

a property defining the command to be performed in response to the event within the active area of the vector object; and --

APP. 128

EXHIBIT I

(12) **United States Patent**   (10) **Patent No.:**   **US 6,552,732 B1**

Davis, Jr. et al.   (45) **Date of Patent:**   *Apr. 22, 2003

(54) **SYSTEM AND METHOD OF PROVIDING INTERACTIVE VECTOR GRAPHICS OVER A NETWORK**

(75) Inventors: **John R. Davis, Jr.**, Garland, TX (US); **Scott M. Glazer**, Richardson, TX (US)

(73) Assignee: **Corel Inc.**, Ottawa (CA)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/491,065**

(22) Filed: **Jan. 25, 2000**

Related U.S. Application Data

(63) Continuation of application No. 08/901,043, filed on Jul. 28, 1997.
(60) Provisional application No. 60/040,332, filed on Mar. 7, 1997.

(51) **Int. Cl.**^{7} **G09G 5/00**

(52) **U.S. Cl.** **345/619**; 707/513

(58) **Field of Search** 345/419, 420, 345/421, 422, 423, 424, 426, 427, 428, 619, 620, 629, 441, 443, 760, 764, 781, 835, 966, 968; 707/10, 501.1, 513

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(74) *Attorney, Agent, or Firm*—Baker Botts L.L.P.

(57) **ABSTRACT**

An interactive vector object **(56, 76, 102)** operable to be downloaded over a network **(16)** may comprise data **(58, 104)** to render an image of the vector object **(56, 76, 102)** and an active area defined by the vector object **(56, 76, 102)**. A vector graphics network file **(88)** may in connection with the data **(58, 104)** render the image of the vector object **(56, 76, 102)** on a client system **(14)** connectable to the network **(16)**.

47 Claims, 5 Drawing Sheets
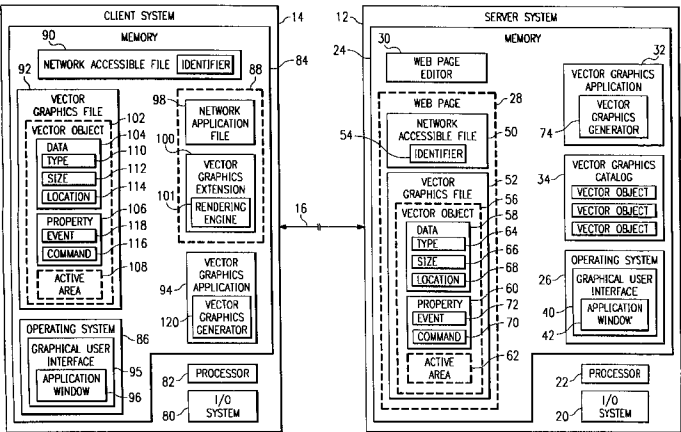
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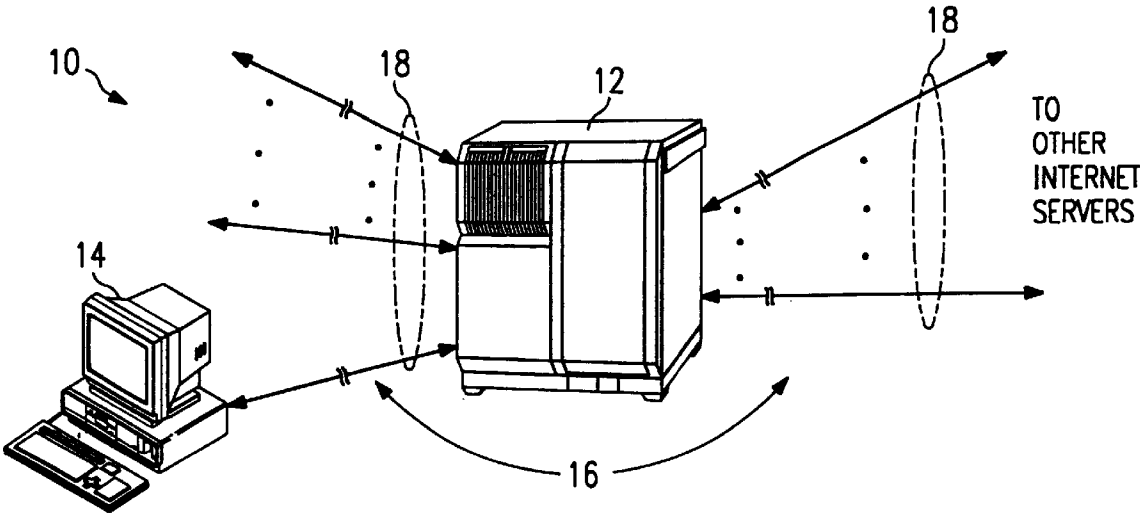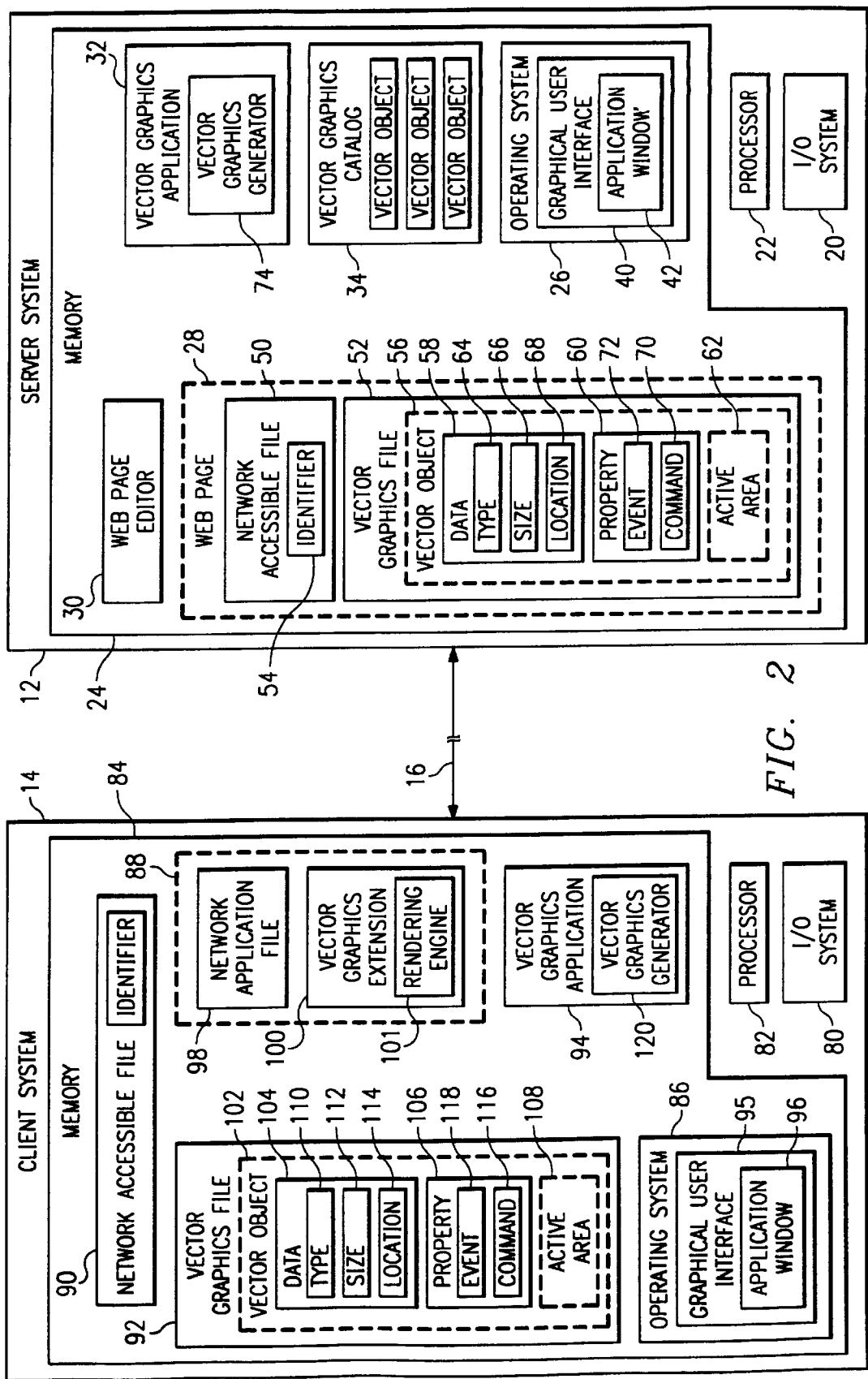
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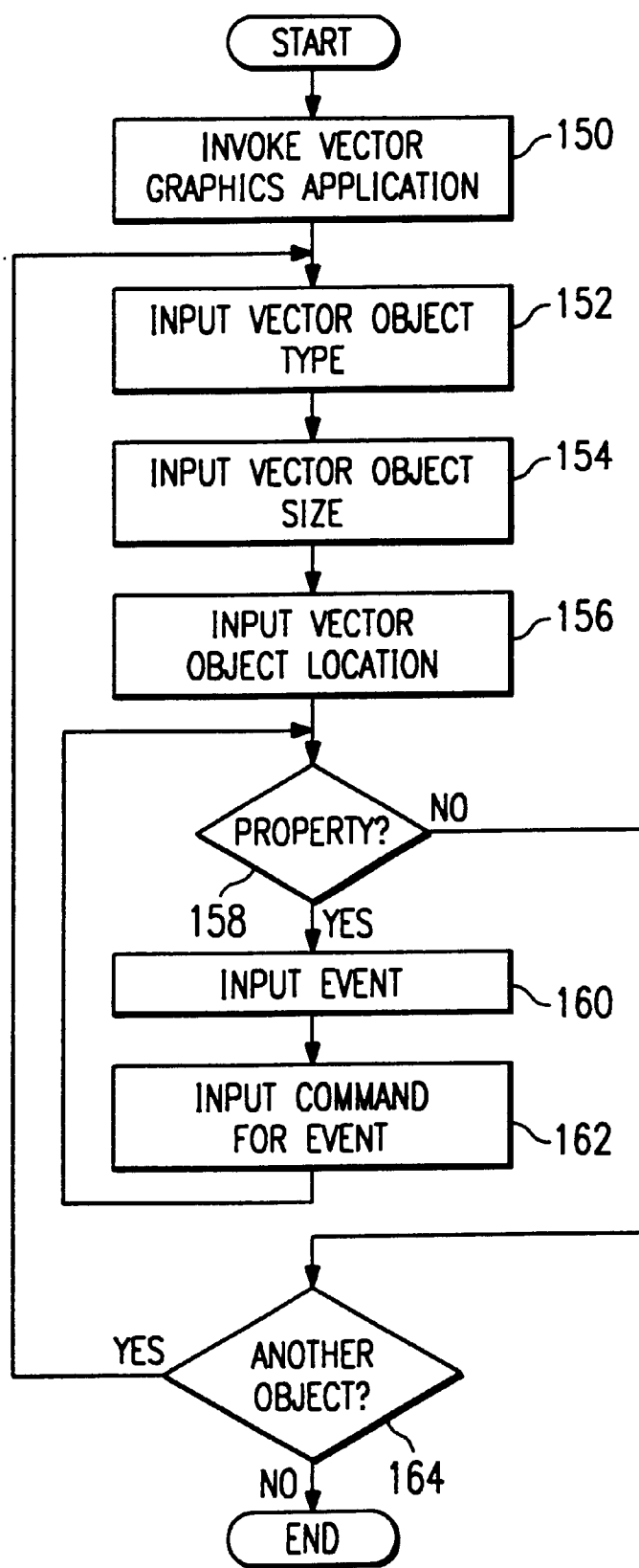
TO
OTHER
INTERNET
SERVERS

FIG. 1

FIG. 2

START

INVOKE VECTOR
GRAPHICS APPLICATION — 150

INPUT VECTOR OBJECT
TYPE — 152

INPUT VECTOR OBJECT
SIZE — 154

INPUT VECTOR
OBJECT LOCATION — 156

PROPERTY?   NO

158   YES

INPUT EVENT — 160

INPUT COMMAND
FOR EVENT — 162

YES   ANOTHER
OBJECT?

NO   164

END

FIG. 3

APP. 134

FIG. 4

FIG. 7

FIG. 5

FIG. 6

APP. 136

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SYSTEM AND METHOD OF PROVIDING INTERACTIVE VECTOR GRAPHICS OVER A NETWORK

This application is a continuation of U.S. application Ser. No. 08/901,043, filed Jul. 28, 1997, by John R. Davis, Jr. and Scott M. Glazer and entitled "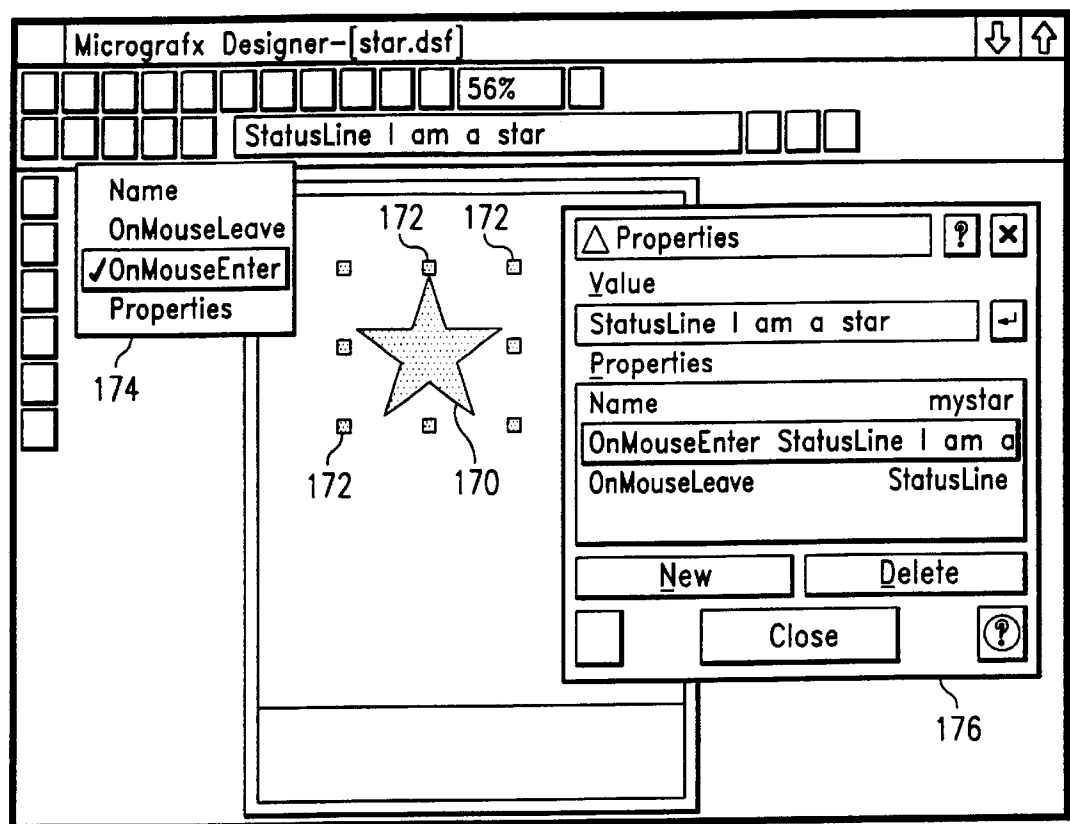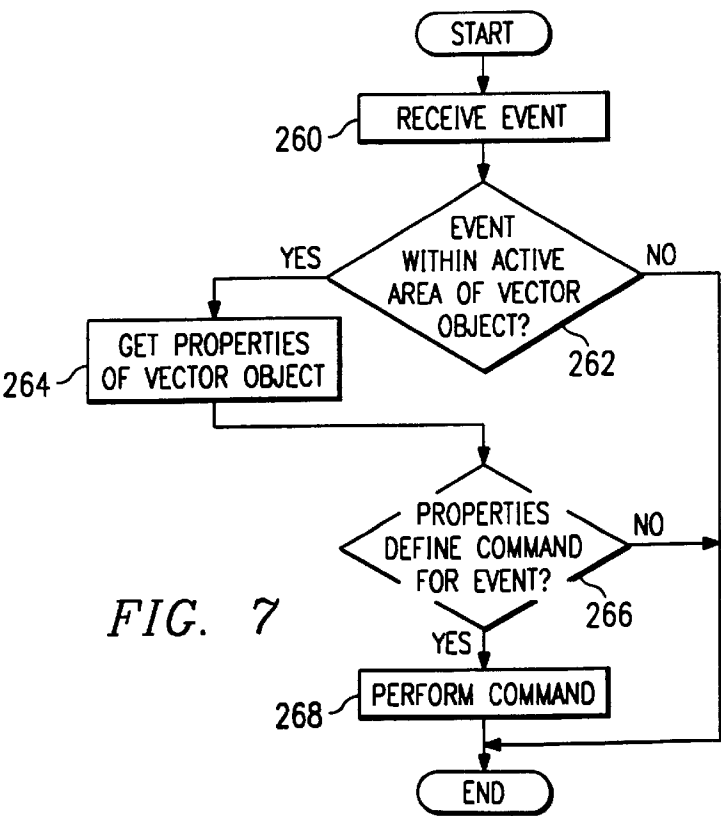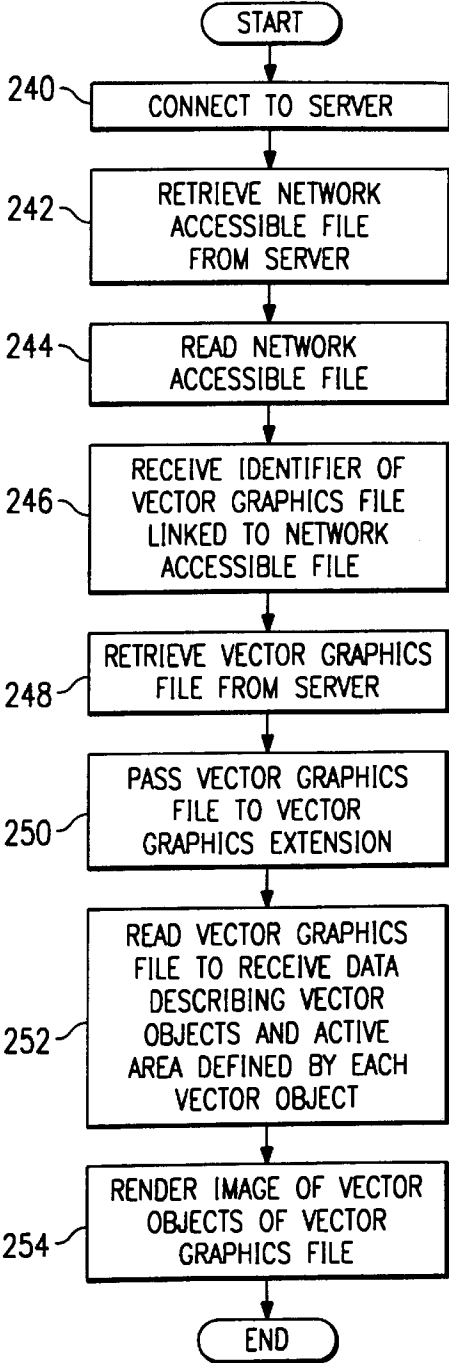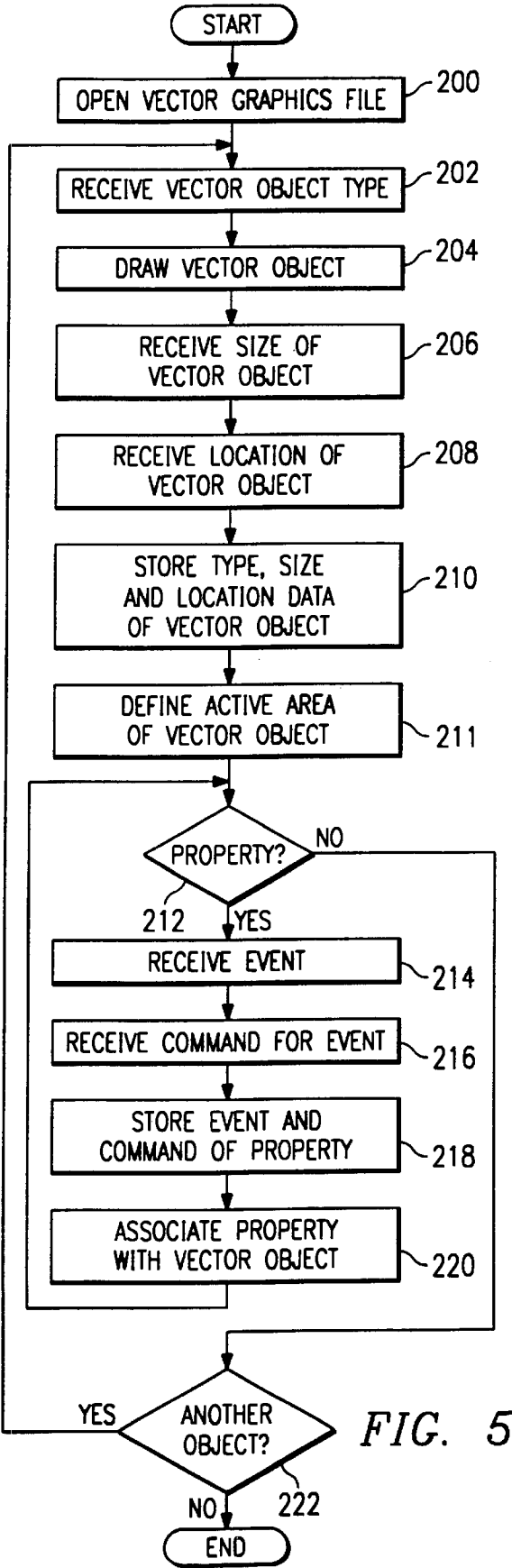System and Method of Providing Interactive Vector Graphics Over a Network." This application claims the benefit of U.S. Provisional Application Ser. No. 60/040,332, filed Mar. 7, 1997.

TECHNICAL FIELD OF THE INVENTION

This invention relates generally to the field of computer graphics, and more particularly to a system and method of providing interactive vector graphics over a network.

BACKGROUND OF THE INVENTION

Web pages are well known for providing graphics and associated information over the Internet. A Web page generally includes an HTML file with embedded bit mapped graphics. The HTML file may be created and bit mapped graphics embedded in the file using an HTML editor. Generally described, bit mapped graphics are computer graphics stored as collections of bits in memory locations corresponding to pixels on the screen. Thus, images are treated as a collection of dots. As a result, bit mapped graphics files are generally large and take a relatively long amount of time to download over the Internet. Additionally, the bit mapped graphics are static and device dependent.

A hot spots editor may be used to generate hot spots for a graphic. A hot spot associates an action with a defined area of the graphic. For Web pages, such actions may include changing a browser status line or jumping to another Web page in response to a user click in the defined area. The hot spot editor approach is inflexible in that only rectangular hot spots can generally be defined. This becomes significant in certain applications such as maps where the regions are too complicated to describe using simple rectangles.

SUMMARY OF THE INVENTION

Accordingly, a need has arisen in the art for improved network graphics. The present invention provides interactive vector graphics that substantially reduce or eliminate disadvantages and problems associated with prior network graphics.

In accordance with the present invention, an interactive vector object operable to be downloaded over a network may comprise data to render an image of the vector object and an active area defined by the vector object. A vector graphics network file may in connection with the data render the image of the vector object on a client system connectable to the network.

More specifically, in accordance with one embodiment of the present invention, the data may comprise a type, a sizes, and a location of the vector object. In this embodiment, the active area may be defined by the type, size, and location of the vector object. The vector object may include a property defining a command to be performed in response to an event within the active area of the vector object. In this embodiment, the command may be operable to alter the image of the vector object on the client system. The vector graphics network file may comprise a vector graphics extension of the client system.

In accordance with another aspect of the present invention, a system to provide interactive vector graphics

over a network may comprise a server system and a client system. The server system may include a network accessible file and a vector graphics file comprising the interactive vector object. In this embodiment, the vector graphics file may be linked to the network accessible file. The client system may include a network application file to connect to the server over the network to retrieve the network accessible file. The network application file may read the network accessible file and retrieve the linked vector graphics file. A vector graphics extension may read the data to render the image of the vector object. The network accessible file may be an HTML file. The network application file may be an Internet browser.

Important technical advantages of the present invention include providing improved network graphics. In particular, vector objects containing mathematical descriptions of lines, curves, fills, and patterns are used as graphics to be downloaded over a network. The vector objects require less memory space and thus can be downloaded faster. Additionally, the vector objects may be scaled without image degradation.

Another technical advantage of the present invention includes providing interactive network graphics. In particular, active areas may be defined by the vector objects. Thus, the active areas need not be separately defined. The active areas may conform to an image of the vector object. Accordingly, an image may be easily made to respond to user-initiated events and to perform specified actions. Additionally, the vector objects may be downloaded, cached and displayed at different sizes on the same or different Web pages or otherwise modified.

Still another technical advantage of the present invention includes providing device independent network graphics. In particular, vector graphics are scaled to the correct size when downloaded and display the maximum number of colors supported by the client system. Thus, the appearance of the graphics may be maximized on all client systems.

Other technical advantages will be readily apparent to one skilled in the art from the following figures, descriptions, and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and its advantages thereof, reference is now made to the following brief description, taken in conjunction with the accompanying drawings and detailed description, wherein like reference numerals represent like parts, in which:

FIG. 1 is a schematic diagram illustrating a client system and a server system connected via the Internet in accordance with one embodiment of the present invention;

FIG. 2 is a schematic block diagram illustrating systems of the client and server systems of FIG. 1 in accordance with one embodiment of the present invention;

FIG. 3 is a flow diagram from a user's perspective illustrating a process of creating a vector graphics file in accordance with one embodiment of the present invention;

FIG. 4 illustrates a dialog box for defining properties of a vector object in accordance with one embodiment of the present invention;

FIG. 5 is a flow diagram illustrating a method of generating a vector graphics file in accordance with one embodiment of the present invention;

FIG. 6 is a flow diagram illustrating a method of downloading a vector graphics file and rendering vector objects in accordance with one embodiment of the present invention; and

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FIG. 7 is a flow diagram illustrating a method of processing events of the vector objects in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

The preferred embodiments of the present invention and its advantages are best understood by referring now in more detail to FIGS. 1–7 of the drawings, in which like numerals refer to like parts throughout the several views. FIGS. 1–7 illustrate a system and method of providing graphics over a network. As described in more detail below, the system and method employs interactive vector graphics that may be efficiently downloaded to a client system. On the client system, the vector graphics may be scaled, stored, manipulated and even modified. Accordingly, the interactive vector graphics system and method substantially improve network graphics.

FIG. 1 illustrates a network interconnection 10 including a server system 12 connected to a client system 14 by a network 16. The server system 12 may be a computer such as a personal computer, file server, workstation, minicomputer, mainframe or any other computer capable of communicating and interconnecting with other computers. As described in more detail below, the server system 12 may include an input/output system, processor, and memory. The input/output system may connect the network 16 and other input and output devices to the server system 12. The network 16 may be directly connected to the server system 12 or may be connected through a data transmission device such as a modem or the like. The input devices may include a pointing device such as a mouse or trackpad, a keyboard, or the like. The output devices may include a monitor, a printer, or the like.

The client system 14 may be similar to the server system 12 and may be implemented using virtually any type of computer. As described in more detail below, the client system 12 is preferably a personal computer having an input/output system, a processor, and a memory. As previously described for the server system 12, the input/output system may connect the network 16 and other input and output devices to the client system 14.

The network 16 may include a plurality of communication lines 18 between the server system 12 and a plurality of clients such as the client system 14. The communication lines 18 may also connect the server system 12 to other server systems. In this manner, the server systems provide a connection to other server systems on the network 16 through the communication lines 18. Thus, a plurality of server systems may be disposed between the client system 14 and the server system 12 along communication lines 18.

Communication lines 18 may be any type of communication link capable of supporting data transfer. In one embodiment, the communication lines 18 may include any combination of an Integrated Services Digital Network (ISDN) communication line, a hardwire line, or a telephone link. It will be understood that the communication lines 18 may comprise other types of links within the scope of the present invention.

In one embodiment, the network 16 may be the Internet. In this embodiment, the server system 12 may be remote from the client system 14 and located anywhere in the world. Generally described, the client system 14 may communicate with the server system 12 using a Web browser application program that provides an address or URL of an Internet Web page stored on the server system 12. The client system 14

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may access the server system 12 through a plurality of other server systems using HTTP and providing the URL to the other server systems. Eventually, the server system 12 is found and in response transmits the Internet Web page to the client system 14.

Although the network 16 is illustrated and described in FIG. 1 as the Internet, the network 16 may be any interconnection found on any computer network such as a local area network (LAN), a wide area network (WAN), an intranet, such as a corporate intranet, or any other communications and data exchange systems created by connecting two or more computers. For the convenience of the reader, the network 16 will be illustrated and described as the Internet. However, it should be understood that the present invention is not limited to network implementations using the Internet.

FIG. 2 illustrates a block diagram of the server system 12 and client system 14 in accordance with one embodiment of the present invention. The server system 12 may comprise an input/output system 20, a processor 22 and memory 24. As previously described, the input/output system 20 may connect the network 16 and other input and output devices to the server system 12. The network 16 may be directly connected to the server system 12 or may be connected through a data transmission device such as a modem or the like. Input devices may include a pointing device such as a mouse or trackpad, a keyboard, and the like. Output devices may include a monitor, a printer, and the like.

The server system 12 includes computer software that may be loaded into the memory 24 and executed by the processor 22. The computer software may generally be identified by modules and similar systems in memory 24. It will be understood that the computer software may be otherwise combined and/or divided for processing within the scope of the present invention. Accordingly, the labels of the modules and other software systems are for illustrative purposes and may be varied within the scope of the present invention.

The computer software may be loaded into memory 24 from disk storage (not shown). Disk storage may include a variety of types of storage media. For example, disk storage may include floppy disk drives, hard disk drives, CD/ROM drives, or magnetic tape drives.

Memory 24 may include an operating system 26, a Web page 28, a Web page editor 30, a vector graphics application 32, and a vector graphics catalog 34. The operating system 26 may include a graphical user interface (GUI) 40 capable of generating a plurality of application windows 42. The operating system 26 may be MacIntosh OS, WINDOWS NT, WINDOWS 95, OS/2, or any other operating system capable of providing a graphical user interface.

The Web page 28 may comprise a network accessible file 50 and a vector graphics file 52. The network accessible file 50 may include an identifier 54 linking the vector graphics file 52 to the network accessible file 50. Accordingly, the vector graphics 52 may be embedded in the network accessible file 50.

The network accessible file 50 is generally formatted to fit the environment in which it will be used. In one embodiment, the network accessible file 50 may be a Hypertext Markup Language (HTML) file conventionally used on the Internet. It will be understood that the network accessible file 50 may be otherwise formatted within the scope of the present invention.

In accordance with the present invention, the vector graphics file 52 may contain some or all graphics of the Web page 28. Accordingly, Web page graphics may be created

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and stored independently of the network accessible file 50. Moreover, as described in more detail below, the vector graphics file 52 provides interactive graphics that require less memory and therefore can be efficiently downloaded over the network 16 to the client system 14. On the client system 14, the vector graphics may be scaled without image degradation, otherwise modified, and used interactively.

As described in more detail below, the vector graphics file 52 is a drawing file that can be modified and downloaded. The vector graphics file 52 may comprise one or more vector objects 56. In one embodiment, the vector objects 56 may comprise data 58, one or more properties 60, and an active area 62. The data 58 may be operable in connection with a vector graphics network file to render an image of the vector object 56 on the client system 14. The data 58 may comprise a type 64, a size 66 and a location 68 of the vector object 56 in the Web page 28. It will be understood that the data 58 may include other characteristics such as color of the vector object 56.

The property 60 may define a command 70 to be performed in response to an event 72 within the active area 62 of the vector object 56. In one embodiment, the commands may include Jump, In Place Jump, Status Line, Cursor Shape, Object Color, Object Text, Move Over, Hide Object, and Show Object. The Jump command may instruct a browser to load and display a newly specified URL. The In Place Jump may instruct a plug-in to discard its contents and display a newly specified drawing. The Status Line command may display a text string in a browser status bar. The Cursor Shape command may set the shape of a cursor on a monitor. The Object Color command may set an interior-fill color of the vector object 56 to a specified color. The Object Text command may set text of the vector object 56 to a specified text. The Move Over command may move a center of the vector object 56 to a specified position. The Hide Object and Show Object commands may hide or show the vector object 56. It will be understood that the commands may carry out other functions within the scope of the present invention.

The events may be user-initiated events. In this embodiment, the events may be On Mouse Enter, On Mouse Leave, On Mouse Down, On Mouse Up, and On Load. The On Mouse Enter event may be initiated when a mouse pointer is moved over an image of a vector object 56. The On Mouse Leave event may be initiated when a mouse pointer is moved away from the image of the vector object 56. The On Mouse Down event may be initiated when a mouse button is depressed while over the image of the vector object 56. The On Mouse Up event may be initiated when the mouse button is released while over the image of the vector object 56. The On Load event may be initiated when the vector graphics file 52 containing the vector object 56 is open. It will be understood that other events may be used to initiate commands within the scope of the present invention.

The active area 62 may be defined by the vector object 56. In one embodiment, the active area 62 may conform to the image of the vector object 56. In this embodiment, the active area 62 may be defined by the type 64, size 66 and location 68 of the vector object 56. It will be understood that the active area 62 may be otherwise defined by the vector object 56. For example, the active area 62 may be defined by an upper, lower, central, exterior or other portion of the vector object 56.

The Web page editor 30 may generate the network accessible file 50 of the Web page 28. Accordingly, for the Internet embodiment of the network 16, the Web page editor 30 may

be an HTML editor. It will be understood that the Web page editor 30 may generate other configurations of the network accessible file 50 in other network configurations within the scope of the present invention.

The vector graphics application 32 may generate the vector graphics file 52. The vector graphics application 32 may include a vector graphics generator 74 to generate and modify the vector object 56. In one embodiment, the vector graphics application 32 may be Micrografx DESIGNER, manufactured by Micrografx, Inc. of Richardson, Tex., the assignee of the present application. In this embodiment, the server system 12 should be configured to report MIME types of DRW, DS4, and DSF file formats used by Micrografx DESIGNER. It will be understood that other commercial drawing programs capable of generating vector graphics may be used as the vector graphics application 32 and that the server system 12 may be otherwise configured in connection with other vector graphics applications 32 within the scope of the present invention.

The vector graphics catalog 34 may comprise a series of vector objects 76 previously generated by the vector graphics application 32. As previously described for vector objects 56, the vector objects 76 may include data, properties and an active area. Accordingly, the vector graphics catalog 34 allows vector objects 76 to be created and stored along with their properties for later use in generating Web pages.

The client system 14 may comprise an input/output system 80, a processor 82 and memory 84. As previously described in connection with the input/output system 20, the input/output system 80 may connect the network 16 and other input and output devices to the client system 14. The network 16 may be directly connected to the client system 14 or may be connected through a data transmission device such as a modem or the like. Input devices may include a pointing device such as a mouse or trackpad, a keyboard, and the like. Output devices may include a monitor, a printer, and the like.

The client system 14 includes computer software that may be loaded and/or downloaded into memory 84 and executed by the processor 82. The computer software may generally be identified by modules and similar systems in memory 84. It will be understood that the computer software may be otherwise combined and/or divided for processing within the scope of the present invention. Accordingly, the labels of the modules and other software systems are for illustrative purposes and may be varied within the scope of the present invention.

As previously described in connection with memory 24, computer software may be loaded into memory 84 from disk storage (not shown). Disks storage may include a variety of types of storage media. For example, disk storage may include floppy disk drives, hard disk drives, CD/ROM drives, or magnetic tape drives.

Memory 84 may include an operating system 86, a vector graphics network file 88, a network accessible file 90, a vector graphics file 92 and a vector graphics application 94. The operating system 86 may include a graphical user interface (GUI) 95 capable of generating a plurality of application windows 96. The operating system 86 may be MacIntosh OS, WINDOWS NT, WINDOWS 95, OS/2, or any other operating system capable of providing a graphical user interface.

The vector graphics network file 88 may be operable to connect to the server system 12 over the network 16 and retrieve the vector graphics file 52. The retrieved vector

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graphics file **52** may be stored in memory **84** on the client system **14** as the vector graphics file **92**. In one embodiment, the vector graphics network file **88** may comprise a network application file **98** and a vector graphics extension **100**. The vector graphics extension **100** may be separated from the network application file **98** to allow vector graphics capabilities to be updated and/or replaced independently of the network application file **98**. In this embodiment, the network application file **98** may retrieve the vector graphics file **52** by retrieving the network accessible file **50**. The retrieved network accessible file **50** may be stored in memory **84** on the client system **14** as the network accessible file **90**. The network accessible file **90** may then be read by the network application file **98** and the linked vector graphics file **52** identified and retrieved.

In one embodiment, the network application file **98** may be an Internet browser. The Internet browser may be Netscape NAVIGATOR, Microsoft INTERNET EXPLORER or other commercially available Internet browsers. It will be understood that the network application file **98** may be formatted to connect and retrieve files over other types of networks **16** within the scope of the present invention.

The vector graphics extension **100** should be compatible with the vector graphics application **32** that generates the vector graphics file **52** from which the vector graphics file **92** is copied. In this manner, the network application file **98** may call the vector graphics extension **100** to process the vector graphics file **92**. When called, the vector graphics extension **100** may respond to the network application file **98** and issue commands back to the network application file **98**. For example, the vector graphics extension **100** may issue event initiated commands of a vector object to the network application file **98**.

In one embodiment, the vector graphics extension **100** may include a rendering engine **101**. In this embodiment, the rendering engine **101** may be operable to read the vector graphics file **92**, render images of vector objects, and print the images of the vector objects. The rendering engine **101** may generate vector graphics "on the fly." Accordingly, the graphics may be updated without resort to the server system **12**. It will be understood that the rendering engine **101** may have other capabilities within the scope of the present invention.

In one embodiment, the vector graphics extension **100** may be Micrografx QUICKSILVER, manufactured by Micrografx, Inc. of Richardson, Tex., the assignee of the present application. Micrografx QUICKSILVER is fully compatible with Micrografx DESIGNER, which may be used as the vector graphics application **32**. It will be understood that other types of vector graphics extensions **100** capable of processing vector graphics may be used within the scope of the present invention.

As previously discussed, the vector graphics file **92** may be a copy of the vector graphics file **52** downloaded over the network **16** by the network application file **98**. Accordingly, as previously described in connection with the vector graphics file **52**, the vector graphics file **92** may comprise one or more vector objects **102**. In one embodiment, the vector objects **102** may comprise data **104**, one or more properties **106**, and an active area **108**. The data **104** may be operable in connection with the vector graphics network file **98** to render an image of the vector object **102** on the client system **14**. The image may be rendered on a monitor or the like. The data **104** may comprise a type **110**, a size **112** and a location **114** of the vector object **102** in the displayed Web page. It

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will be understood that the data **104** may include other characteristics such as color of the vector object **104**.

The property **106** may define a command **116** to be performed in response to an event **118** within the active area **108** of the vector object **102**. Accordingly, the vector objects **102** detect and respond to events on the client system **14**. The commands **116** and events **118** may be as previously described in connection with the commands **70** and events **72**. It will be understood that the commands **116** and events **118** may carry out other functions within the scope of the present invention.

The active area **108** may be defined by the vector object **102**. In one embodiment, as previously described in connection with the active area **62**, the active area **108** may conform to the image of the vector object **102**. In this embodiment, the active area **108** may be defined by the type **110**, size **112**, and location **114** of the vector object **102**. It will be understood that the active area **108** may be otherwise defined by the vector object **102**. For example, the active area **108** may be defined by an upper, lower, central, exterior or other portion of the vector object **102**.

The vector graphics application **94** may be used to modify the vector graphics file **92**. To this end, the vector graphics application **94** should be compatible with the vector graphics file **92**. The vector graphics application **94** may include a vector graphics generator **120** to modify the vector object **102**. In one embodiment, the vector graphics application **94** may be Micrografx DESIGNER, manufactured by Micrografx, Inc. of Richardson, Tex., the assignee of the present application. It will be understood that other commercial drawing programs capable of modifying vector graphics may be used as the vector graphics application **94** within the scope of the present invention.

FIG. 3 illustrates a flow diagram by which a user may utilize the vector graphics application **32** of the server system **12** to generate the vector graphics file **52**. The process begins at step **150** in which the user invokes the vector graphics application **32**. In response, as described in more detail below, the vector graphics application **32** may open the vector graphics file **52** in the application window **42** of the graphical user interface (GUI) **40** of the operating system **26**.

Proceeding to step **152**, the user may input a vector object type. Preferably, types of vector objects may be selected from a list displayed in a drop-down menu or the like. Types of vector objects may include squares, rectangles, circles, stars, triangles, ellipses and any other shape that may be described by a series of vectors. As shown by FIG. **4** and described in more detail below, the vector graphics application **32** may draw the selected vector object **170** in the application window **42** for viewing and manipulation by the user. For the embodiment of FIG. **4**, the selected vector object **170** is a star.

At step **154**, the user may input a vector object size. Preferably, the vector object size may be inputted by scaling the drawn vector object **170**. As shown by FIG. **4**, the drawn vector object **170** may be conventionally sized by using sizing points **172** located around the perimeter of the vector object **170**. Accordingly, the user may view the vector object **170** while determining the desired size of the vector object **170**.

Next, at step **156**, the user may input a vector object location. Preferably, the vector object located is inputted by dragging the vector object **170** to its desired position in the vector graphics file **52**. Accordingly, the user may view the vector object **170** while determining the desired location of the vector object **170**. Step **156** leads to decisional step **158**.

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At decisional step **158**, the user may select to add a property to the vector object **170**. If the user selects to add a property to the vector object **170**, the YES branch of decisional step **158** leads to step **160**. At step **160**, the user may input an event of the property. The event may be as previously described in connection with FIG. **2**. Preferably, as shown by FIG. **4**, the event may be selected from a list of events displayed in a drop-down menu **174**. It will be understood that the events may be otherwise inputted within the scope of the present invention.

At step **162**, the user may input a command for the event. The commands may be as previously described in connection with FIG. **2**. Preferably, the commands may be selected from a list displayed in a pull-down menu or the like. As shown by FIG. **4**, properties defined for the drawn vector object **170** may be displayed in a dialog box **176**.

Step **162** returns to decisional step **158** where the user may select to add another property to the vector object **170**. If another property is to be added, the YES branch of decisional step **158** again leads to step **160** and the cycle is repeated until no further properties are to be added to the vector object **170**. When no properties or no further properties are to be added to the vector object **170**, the NO branch of decisional step **158** leads to decisional step **164**.

At decisional step **164**, the user may select to add another object to the vector graphics file **52**. If another vector object is selected to be added to the vector graphics file **52**, the YES branch of decisional step **164** returns to step **152** where the user may input the type of the next vector object. Thereafter, as previously described, the user may size, locate and define properties of that vector object. When no further objects are to be added to the vector graphics file **52**, the NO branch of decisional step **164** leads to the end of the process.

FIG. **5** illustrates a flow diagram of generating the vector graphics file **52** in accordance with one embodiment of the present invention. The process begins at step **200** where the vector graphics application **32** may open the vector graphics file **52**. As previously described, the vector graphics file **52** may be opened in response to the vector graphics application **32** being invoked by the user.

Next, at step **202**, the vector graphics file **52** may receive a vector object type. The vector object type may be received by the selection of the user from a list displayed in a drop-down menu or the like. At step **204**, as shown by FIG. **4**, the vector graphics file **52** may draw the selected vector object **170**. As previously described, this allows the user to view the vector object **170** while sizing and locating the vector object **170** in the vector graphics file **52**.

Proceeding to step **206**, the vector graphics file **52** may receive the size of the vector object **170**. The size may be received by the scaling of the vector object **170** by the user. At step **208**, vector graphics file **52** may receive the location of the vector object **170**. The location of the vector object **170** may be received by receiving a drag and drop of the vector object **170** by the user.

Next, At step **210**, the vector graphics file **52** may store the type, size, and location data of the vector object **170**. In one embodiment, the data of each vector object **170** may be stored in a table of the vector graphics file **52**. It will be understood that other data describing the vector object **170** may be received and stored for the vector object **170**. For example, color of the vector object **170** may be received and stored along with the type, size, and location of the vector object **170**.

Proceeding to step **211**, an active area of the vector object **170** may be defined. As previously discussed, the active area

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may conform to the image of the vector object **170**. In this embodiment, the active area may be defined by the type, size, and location of the vector object **170**. It will be understood that the active area may be otherwise defined by the vector object **170**. For example, the active area may be defined by an upper, lower, central, exterior or other portion of the vector object **170**. Step **211** leads to decisional step **212**.

At decisional step **212**, it is determined if a property is to be added to the vector object **170**. A property may be added to vector object **170** when a selection is received from the user. If a property is to be added to the vector object **170**, the YES branch of decisional step **212** leads to step **214**. At step **214**, the vector graphics file **52** may receive an event of the property. The event may be received by a selection from the user. The event may be as previously described in connection with FIG. **2**.

Next, at step **216**, the vector graphics file **52** may receive a command for the event. The command may be received by a selection from the user. The command may be as previously described in connection with FIG. **2**.

Continuing to step **218**, the vector graphics file **52** may store the event and the command of the property. At step **220**, the property may be associated with the vector object **170**.

Step **220** returns to decisional step **212** where it is determined if another property is to be added to the vector object **170**. Another property may be added to the vector object **170** when the user selects to add another property. If another property is to be added, the YES branch of decisional step **212** again leads to step **214** and the cycle is repeated until no further properties are to be added to the vector object **170**. When no properties or no further properties are to be added to the vector object **170**, the NO branch of decisional step **212** leads to decisional step **222**.

At decisional step **222**, it is determined if another vector object is to be added to the vector graphics file **52**. Another vector object may be added to the vector graphics file **52** when the user selects to add another vector object. If another vector object is to be added to the vector graphics file **52**, the YES branch of decisional step **222** returns to step **202** where a vector object type of the next vector object may be received. Thereafter, as previously described, the vector graphics file **52** may draw the vector object, receive size and location data of the vector object, store the type, size, and location data of the vector object, and associated properties of the vector object. When no further vector objects are to be added to the vector graphics file **52**, the NO branch of decisional step **222** leads to the end of the process.

Accordingly, the vector graphics file **52** comprises vector objects containing mathematical descriptions of lines, curves, fills, and patterns. At this point, the vector graphics file **52** may be embedded in the network accessible file **50** for use in Web page **28** of the server system **12**. As described in more detail below, the vector objects require less memory space than conventional graphics and thus can be downloaded faster. Additionally, the vector objects may be scaled on a client system without image degradation.

FIG. **6** illustrates a flow diagram of downloading the vector graphics file **52** from the server system **12** to the client system **14** over the network **16** in accordance with one embodiment of the present invention. The process begins at step **240** where the network application file **98** of the client system **14** may connect to server system **12** over the network **16**. As previously described, the network application file **98** may be an Internet browser. The Internet browser may be

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operable to search, locate and download Web pages of server systems connected to the network **16**.

Next, at step **242**, the network application file **98** may retrieve the network accessible file **50**. In the Internet embodiment, the network accessible file **50** may be an HTML file of the Web page **28**. As previously described, the retrieved network accessible file **50** may be stored in memory **84** on the client system **14** as the network accessible file **90**.

Proceeding to step **244**, the network application file **98** may read the network accessible file **90**. At step **246**, the network application file **98** may receive the identifier linking the vector graphics file **52** to the network accessible file **90**. In response, at step **248**, the network application file **98** may retrieve the vector graphics file **52** from the server system **12**. As previously described, the retrieved vector graphics file **52** may be stored in memory **84** of the client system **14** as the vector graphics file **92**. At step **250**, the network application file **98** may pass the vector graphics file **92** to the vector graphics extension **100** for processing.

Proceeding to step **252**, the vector graphics extension **100** may read the vector graphics file **92** to receive data describing the vector object **102** and the active area **108** defined by the vector object **102**. At step **254**, the vector graphics extension **100** may render an image of the vector object **102**. Step **254** leads to the end of the process.

Accordingly, the vector graphic file comprising vector objects may be downloaded from the server system to the client system over the network. Because the vector objects require less memory space than conventional graphics, the vector graphics files may be downloaded faster. Additionally, the vector objects may be cashed and displayed at different sizes on the same or different Web pages and otherwise modified. As previously described, the downloaded vector objects may be modified using the vector graphics application **94** of the client system **14**. Moreover, the vector graphics are device independent. Accordingly, the vector graphics are scaled to the correct size when downloaded and display the maximum number of colors supported by the client system. Thus, the appearance of the graphics are maximized on all client systems.

FIG. **7** illustrates a flow diagram of processing events for vector objects of the client system **14**. The process begins at step **260** where an event is received by the vector graphics extension **100**. The event may be initiated by a user and received by the vector graphics extension **100** through the graphical user interface (GUI) **95** of the operating system **86**. The event may be as previously described in connection with FIG. **2**.

Next, at decisional step **262**, the vector graphics extension **100** may determine if the event occurred within the active area **108** of the vector object **102**. As previously described, the active area **108** may conform to the image of the vector object **102**. In one embodiment, the vector graphics extension **100** may employ a rectangular box around the vector object **102** for trivial rejection in determining if an event occurred within the active area **108** of the vector object **102**. In this embodiment, if the event occurred within the rectangular box, the vector graphics extension **100** may employ odd crossing techniques to determine if the event occurred within the active area of the vector object **102**. It will be understood that other well known techniques may be used to determine if the event occurred within the active area of the vector object **102**.

If the event did not occur within the active area **108** of the vector object **102**, the NO branch of decisional step **262**

leads to the end of the process. If the event occurred within the active area **108** of the vector object **102**, the YES branch of decisional step **262** leads to step **264**. At step **264**, the vector graphics extension **100** may get the properties **106** of the vector object **102**.

Proceeding to decisional step **266**, it may be determined if the properties **106** define a command **116** for the event. If no command **116** is defined for the event, the NO branch of decisional step **266** leads to the end of the process. If the properties **106** define a command **116** for the event, the YES branch of decisional step **266** leads to step **268**. At step **268**, the vector graphics extension **100** may perform the command **116** defined for the event. Step **268** leads to the end of the process.

Accordingly, an interactive vector object may be generated on the server system and downloaded over the network to the client system. Moreover, the interactive vector objects include active areas defined by the vector objects. Thus, the active areas need not be separately defined. The active areas may conform to an image of the vector object. Accordingly, an image may be easily made to respond to user-initiated events and to perform specified actions.

Although the present invention has been described with several embodiments, various changes and modifications may be suggested to one skilled in the art. It is intended that the present invention encompass such changes and modifications as fall within the scope of the appended claims.

What is claimed is:

1. An interactive vector object stored on a computer readable medium and operable to be downloaded over a network, the vector object comprising:

   data operable to be downloaded to a client system connectable to the network and, in connection with a vector graphics network file, to render an image of the vector object on the client system; and

   an active area defined by the vector object, the active area associated with a command to be performed in response to an event therein.

2. The interactive vector object of claim **1**, further comprising the active area conforming to the image of the vector object.

3. The interactive vector object of claim **1**, the data further comprising a type, a size, and a location of the vector object.

4. The interactive vector object of claim **3**, further comprising the active area defined by the type, size, and location of the vector object.

5. The interactive vector object of claim **1**, further comprising the command operable to alter the image of the vector object on the client system.

6. The interactive vector object of claim **1**, the vector graphics network file further comprising a vector graphics extension operable to render the image of the vector object on the client system.

7. The interactive vector object of claim **1**, further comprising the data in connection with the vector graphics network file operable to render the image of the vector object within a window of a graphical user interface of the client system.

8. A server system operable to provide interactive vector graphics stored on a computer readable medium over a network, the server system comprising:

   a vector graphics file operable to be downloaded to a client system connectable to the network;

   the vector graphics file comprising an interactive vector object, the vector object comprising:

   data operable in connection with a vector graphics network file to render an image of the vector object on the client system; and

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an active area defined by the vector object, the active area associated with a command to be performed in response to an event therein.

9. The server system of claim **8**, the vector graphics network file further comprising a vector graphics extension operable to render the image of the vector object on the client system.

10. The server system of claim **9**, the vector graphics extension comprising a plug-in for use by an Internet browser to render the image of the vector object on the client system.

11. The server system of claim **8**, further comprising the data in connection with the vector graphics network file operable to render the image of the vector object within a window of a graphical user interface of the client system.

12. The server system of claim **8**, the vector graphics file further comprising a plurality of vector objects.

13. The server system of claim **8**, further comprising:

a network accessible file operable to be downloaded over the network; and

the network accessible file including an identifier linking the vector graphics file to the network accessible file.

14. The server system of claim **13**, the network accessible file comprising a markup language file for downloading to the client system from a hypertext transfer protocol (HTTP) server.

15. A Web page stored on a computer readable medium, the Web page comprising:

a network accessible file operable to be downloaded over a network;

a vector graphics file linked to the network accessible file;

the vector graphics file operable to be downloaded to a client system connectable to the network, the vector graphics file comprising an interactive vector object, the vector object comprising:

data operable in connection with a vector graphics network file to render an image of the vector object on the client system; and

an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein.

16. The Web page of claim **15**, the vector graphics network file further comprising a vector graphics extension operable to render the image of the vector object on the client system.

17. The Web page of claim **16**, the vector graphics extension comprising a plug-in for use by an Internet browser to render the image of the vector object on the client system.

18. The Web page of claim **15**, further comprising the data in connection with the vector graphics network file operable to render the image of the vector object within a window of a graphical user interface of the client system.

19. The Web page of claim **15**, the vector graphics file further comprising a plurality of interactive vector objects.

20. The Web page of claim **15**, the network accessible file comprising a markup language file for downloading to the client system from a hypertext transfer protocol (HTTP) server.

21. A system operable to provide interactive vector graphics over a network, the system comprising:

a server system, comprising:

a network accessible file;

a vector graphics file linked to the network accessible file;

the vector graphics file comprising an interactive vector object, the vector object comprising:

data describing the vector object; and

an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein;

a client system, comprising:

a network application file operable to connect to the server over the network to retrieve the network accessible file;

the network application file operable to read the network accessible file and retrieve the linked vector graphics file; and

a vector graphics extension operable to read the data to render an image of the vector object.

22. The system of claim **21**, the server system comprising a hypertext transfer protocol (HTTP) server operable to download files over the Internet in response to requests.

23. The system of claim **22**, the network accessible file comprising a markup language file for downloading to the client system from the HTTP server.

24. The system of claim **21**, the network application file further comprising an Internet browser, and the vector graphics extension comprising a plug-in for use by the Internet browser to render the image of the vector object.

25. The system of claim **21**, the server system further comprising a vector graphics application operable to generate the vector graphics file.

26. The system of claim **21**, the client system further comprising a vector graphics application operable to modify the vector graphics file.

27. The system of claim **21**, the client system further comprising:

a graphical user interface having a window; and

the sector graphics extension operable to render the image of the vector object within the window of the graphical user interface.

28. The system of claim **21**, further comprising the vector graphics extension operable to perform the command in response to the event within the active area of the vector object.

29. A client system operable to provide interactive graphics over a network, the system comprising:

a vector graphics file downloaded to the client system over the network;

the vector graphics file comprising an interactive vector object, the vector object comprising:

data describing the vector object; and

an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein; and

a vector graphics network file stored on a computer readable medium operable to read the data to render an image of the vector object.

30. The system of claim **28**, the vector graphics network file comprising a vector graphics extension operable to render the image of the vector object on the client system.

31. The system of claim **30**, the vector graphics network file further comprising an Internet browser, and the vector graphics extension comprising a plug-in for use by the Internet browser to render the image of the vector object.

32. The system of claim **30**, further comprising the vector graphics extension operable to perform the command in response to the event within the active area of the vector object.

33. The system of claim **28**, further comprising:

a graphical user interface having a window; and

the vector graphics network file operable to render the image of the vector object within the window of the graphical user interface.

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34. The system of claim **28**, further comprising a vector graphics application operable to modify the vector graphics file downloaded over the network.

35. The system of claim **28**, further operable to download the vector graphics file to the client system over the Internet from a hypertext transfer protocol (HTTP) server.

36. A method of providing interactive vector graphics over a network, the method comprising the steps of:

downloading over a network to a client system a vector object, the vector object comprising:

data describing the vector object; and

an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein; and

rendering an image of the vector object on the client system.

37. The method of claim **36**, wherein the step of rendering an image of the vector object comprises the step of rendering the image of the vector object within a window of a graphical user interface of the client system.

38. The method of claim **36**, wherein the network comprises an Internet connection.

39. The method of claim **36**, the step of downloading the vector object further comprising the steps of:

connecting to a server system over the network;

retrieving a network accessible file of the server system;

reading the network accessible file;

receiving from the network accessible file an identifier linking a vector graphics file to the network accessible file; and

retrieving the linked vector graphics file responsive to the identifier, the vector graphics file comprising the vector object.

40. The method of claim **39**, the network accessible file comprising a markup language file for access by an Internet browser.

41. The method of claim **36**, the step of rendering the image of the vector object further comprising passing the vector graphics file to a vector graphics extension on the client system.

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42. Logic for providing interactive vector graphics over a network, the logic embodied in a medium and operable when executed to:

download over a network to a client system a vector object, the vector object comprising:

data describing the vector object; and

an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein; and

render an image of the vector object on the client system.

43. The logic of claim **42**, further operable to render the image of the vector object within a window of a graphical user interface of the client system.

44. The logic of claim **42**, further operable to download the vector object by:

connecting to a server system over the network;

retrieving a network accessible file of the server system;

reading the network accessible file;

receiving from the network accessible file an identifier linking a vector graphics file to the network accessible file; and

retrieving the linked vector graphics file responsive to the identifier, the vector graphics file comprising the vector object.

45. The logic of claim **44**, the network accessible file comprising a markup language file for access by an Internet browser.

46. The logic of claim **42**, further operable to pass the vector graphics file to a vector graphics extension on the client system.

47. A client system operable to provide interactive graphics over a network, the system comprising:

means for downloading over a network to a client system a vector object, the vector object comprising:

data describing the vector object; and

an active area predefined by the vector object, the active area associated with a command to be performed in response to an event therein; and

means for rendering an image of the vector object on the client system.

*   *   *   *   *